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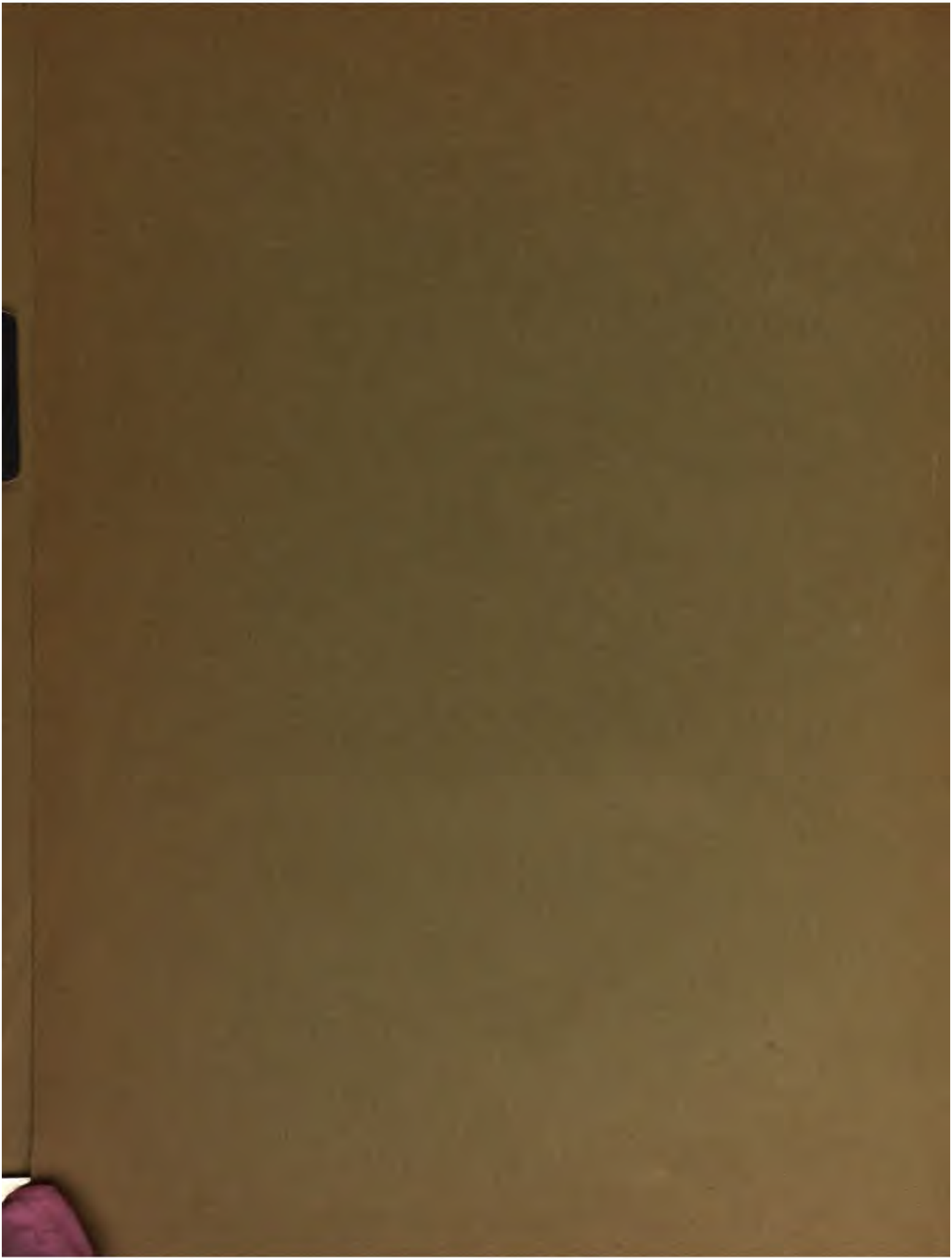
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ASTRONOMICAL

AND

METEOROLOGICAL OBSERVATIONS

MADE AT

THE UNITED STATES NAVAL OBSERVATORY

DURING

THE YEAR 1865.

PUBLISHED BY AUTHORITY OF THE

HON. SECRETARY OF THE NAVY.

REAR-ADMIRAL CHARLES HENRY DAVIS, U. S. N., SUPERINTENDENT.

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INTRODUCTION.

In August, 1842, a law was enacted authorizing the erection of a "Depot of Charts and Instruments," and the building was completed in September, 1844. In December of 1854 the honorable Secretary of the Navy directed that it should thereafter be styled the "United States Naval Observatory and Hydrographical Office."

The enacting law authorized the President of the United States to locate the building upon any public ground within the District of Columbia not otherwise in use; and the site assigned by him is the square originally designed in the plan of the city of Washington for a National University. It is on the north bank of the river Potomac, in the southwestern part of the city, and contains about seventeen acres, of which the highest point is one hundred feet above the river, the ground sloping thereto both on the south and on the west sides. It is enclosed on the east, south, and west sides by a brick wall, and on the remaining one by a picket fence.

The Observatory buildings consist of a central edifice fifty feet square, with wings to the east, west, and south. The central building is two stories and a basement high, with a parapet and balustrade of wood round the top, and is surmounted by a revolving dome twenty-three feet in diameter, which rests on a circular wall, built to a height of seven feet above the highest part of the roof. The east and west wings were each originally erected twenty-six feet six inches long, twenty-one feet wide, and eighteen feet high; but in the year 1848 the former was extended in length twenty-four feet, so as to connect it with the dwelling of the Superintendent, built directly east of the Observatory during the preceding year. The south wing is separated from the main building by a passage-way ten feet square. It is forty-one feet long, and of the same breadth and height as the others, having, in 1846, been extended twenty feet for the accommodation of a circle in the Prime Vertical. The width and height of the addition are the same as those of the old portion.

From observations, described in the previous volumes, particularly in that for 1863, the latitude of the Observatory has been taken at 38° 53′ 39″.25 north, and its longitude at 5h. 8m. 11s.0 west from Greenwich. These values have been used in all the reductions up to the present time. Subsequent observations, now in process of discussion, may augment each of these ordinates, but the change will not go beyond the first decimal of the second.

There are four rooms on each floor of the central building. One is occupied as a library room and office for the Superintendent; two are filled with charts, properly arranged, for distribution to ships of the navy; and the remainder, both on the first and second floors, are assigned to the assistants.

A clock, by Kessel, of Altona, and barometer, by Green, of New York, are placed in the office of the Superintendent. The clock, which is an excellent one, has not hitherto been used in connection with any instrument, but merely as a standard with which the others have been compared. Drawings of the barometer will be found in the volume for 1862, and a description of the instrument in the introduction to the Meteorological Observations.

The Meridian Transit Instrument was made by Messrs. Ertel & Son, at Munich, with an object-glass of 5.3 inches aperture, and focal length of about 86 inches. The lens was refigured and repolished by Messrs. Alvan Clark & Sons in the autumn of 1862, with decided improvement both in achromatism and definition. Stars wholly invisible during daylight prior to the change can now be observed with great satisfaction; but, except on very rare occasions, its power

under ordinary illumination does not extend beyond stars of the 10th magnitude. The axis of its telescope is 42 inches long between the bearing points of the pivots. There are finder circles of 8 inches diameter near the eye-end of the telescope, a striding level, and a reversing carriage of the ordinary construction. Until September 2d, 1864, this instrument had been placed in the west room of the building, and was mounted on monoliths of granite split from the same block, and wholly isolated from the floors of the building. At the date last mentioned it was taken down, and with the piers removed to the place in the east room, until then occupied by the Meridian Circle of Ertel, the latter instrument having been previously removed to make room for it. These changes became necessary in order to prepare the west room for the reception of the Transit Circle of Pistor & Martins, then shortly expected to arrive. The clock used for observations with the transit instrument during the year is that of Mr. Charles Frodsham, of London, which has been in use in this room for many years with the Meridian and Mural Circles, and is a satisfactory instrument. It is supported against a massive granite pier, and has all necessary adjustments for verticality. It has Graham's dead beat escapement, with jewelled pallets; mercurial compensated pendulum; the usual means for altering the length of the rod and putting it in beat; a divided scale screwed to the base of the stirrup that supports the mercury cylinder. The extremity of the index is a delicate knife-edge in the plane of vibration of the pendulum. This knife-edge touches at each oscillation a globule of mercury that is supported on a slender bracket projecting from the centre of the divided scale. There are wires from the mercury globule to a galvanic battery, and the registering apparatus.

The registering apparatus is that made by Howard & Davis, hereafter described.

The Mural Circle, made by Troughton and Simms, is in the east wing, and is mounted upon the east face of a sandstone pier. It is five feet in diameter, and connected with the central portion by twelve radii strengthened on their backs by edge bars and united midway by a second concentric circle. To secure homogeneity, if possible, all the preceding portions constitute parts of the same cast. A band of gold and one of platina are inlaid upon the rim perpendicular to the plane of the circle. The former band is divided into spaces of 5′, and the latter to spaces of 1°, each of which is numbered. The minute reading is by means of six equidistant microscopes secured to the face of the pier, and which are illuminated through apertures in the same from a gas lamp placed to the west of it. The instrument has a conical axis three feet long. Under the eastern end of the latter there are friction rollers connected with rods that pass between the circle and the face of the pier, and thence over the top to counterpoises within a cavity of the pier. Its telescope is a cylinder secured to the circle both at the centre and near the extremities. The object-glass has a diameter of 4.0 inches, and was originally of five feet focal length. In 1862, the object-glass, not being entirely satisfactory, was modified by Messrs. Alvan Clark & Sons, of Cambridgeport, by which its achromatism and definition have both been improved. The eye-piece is the work of Mr. John Clark, the machinist of the Observatory, and is described in the volume for 1862.

The barometer is a Newman standard, No. 75. It is mounted against the back of the clock pier. Its tube has a diameter of 0.582 inch, and the reading of the mercury column by a vernier is to 0.002 inch. As the oxidized mercury of its cistern had greatly affected the upper part of the tube, early in 1862 the instrument was taken down and cleaned by Mr. James Green. After being remounted, simultaneous comparisons were made with the standard in the Superintendent's room, the observers being interchanged to eliminate personal peculiarities of reading. A mean of ten comparisons, corrected for capillarity and temperature, shows that Newman No. 75 requires a further correction—0.0001 inch. Additional information respecting barometers of the latter construction will be found in the introduction to the Meteorological Observations.

The thermometers used in connection with the circle observations are specified in the account of those observations. A table of corrections for recorded readings of the air (external) thermometer is there given.

The other room of the east wing is wholly devoted to nautical and other instruments required in naval operations. Cases to contain the chronometers and shelves, &c., for the other instruments, are so disposed as to accommodate the largest number and to facilitate their examination or distribution. The chronometers are daily compared with a clock in the southwest corner of the room, and at the end of each month their rates are transferred from the comparison papers to record books. The latter instrument was made for the old Depot of Charts and Instruments, by Messrs. Parkinson & Frodsham, and is identical in construction with the clock of the east wing. It is firmly held against a granite pier by strong braces. To facilitate and render the instants of comparison more certain when noise causes the clock-beat to be inaudible, a tilt-hammer and electro-magnet are connected by wires with a battery, and the clock pendulum through a mercury globule. When the circuit is closed, a sharp ringing sound is emitted by the hammer at each vibration of the pendulum. The rate of this clock is more uniform than that of any other in the establishment, Kessel's excepted.

The Transit Instrument in the Prime Vertical is in the north room of the south wing. Its telescope has an aperture of 4.85 inches, with a focal length of 78 inches. It is attached to one extremity of an axis 42 inches long, the other extremity of which carries a counterpoise. The pivots of the axis are hollow cylinders of fine steel 3.5 inches in diameter. Their re-grinding by Mr. William Würdemann was mentioned in the volume for 1861. The telescope and its counterpoise are outside of the supporting pier, but their weights are transferred to the bearing points of the Y's by levers and counterpoises within the pivots and axis. To obviate the necessity for touching the telescope tube either during an observation or for reversal, Mr. Clark, the machinist, has inserted a pair of iron rods in the corners of the cube near the telescope pivot. These rods converge towards the eye-end, where they are united in a handle of convenient length. The pier upon which the instrument is mounted is a wide monolith of which the central portion has been cut out for the accommodation of a reversing carriage of special construction.

The clock for this room was made by Charles Frodsham, and is mounted against a granite pier erected to the east of the Prime Vertical Transit Instrument. Instead of glass for the mercury of its pendulum cylinder, steel is used, the pendulum rod being screwed into a cap which covers the top of the cylinder. The pendulum index has a single knife-edge, and its divided scale supports a bracket with a mercury globule like the clock of the west wing. There being no recording apparatus for this room, and the clock-beat being faint, a tilt-hammer and battery were put up, to be used when high winds or other noise should make it advisable.

The extreme south room contains the library. Professor Harkness continued in charge of it until October 4, when he was detached from the Observatory. Professor J. E. Nourse, U. S. N., succeeded him as librarian.

The Equatorial Instrument in the dome is mounted upon a massive granite pedestal, which rests upon a hollow conical pier. The foundation for the pier is solid masonry 10½ feet thick, with a diameter of 15 feet. The instrument was made by Merz & Mahler; the object-glass having an aperture of 9.6 inches, and a focal length of 14 feet 3 inches. Its hour and declination circles are respectively 15 and 21 inches in diameter. Its *finder* has an object-glass 2.6 inches in diameter and 32 inches focal length. The repeating filar micrometer, of Fraunhofer's pattern, is provided with both external divided scale and a comb at one side of the field, by which the complete revolutions may be read. The comb has a deeper interval at every fifth tooth, and every tooth represents one revolution. The instrument is perfectly equiposed in every position, and the telescope may be kept in motion by an endless screw working in grooves of the hour circle, the time of revolution of which is regulated by a clock with centrifugal pendulum. A cylinder chronographic apparatus, with Bond's spring governor, connected with a battery and the clock of the south wing, is used for registering the instants of observation.

The object-glass being slightly under-corrected for color, and its performance not equalling

others of like dimensions, in 1862 it was placed in the hands of Messrs. Clark & Sons to refigure. They increased the focal length about an inch, corrected the defective achromatism, and certainly improved the definition; but the flint disk is not a perfect one, and no amount of labor would ever make it an object-glass of the first class.

In the dome is also kept a comet-seeker by Merz & Mahler. Its object-glass has an aperture of 3.9 inches and focal length of 32 inches. The instrument is equatorially mounted on a stout shaft of brass, resting upon a tripod which has the ordinary adjusting screws, and the telescope is perfectly balanced in every position. It has hour and declination circles, each of five inches diameter, the divisions of which may be read to 4*s*. or 1′ by means of opposite verniers. The present object-glass was made by Messrs. Alvan Clark & Sons. Even during the brightest moonlight, the luminous boundaries of the annular nebulæ in Lyra are admirably well shown by it. For greater convenience of the observer with the comet-seeker, the roof of the main building is covered with a level grated platform. There are substantial supports for instruments outside of the rotundo, from one or the other of which all parts of the heavens may be seen.

For the purpose of giving correct time to the city, a staff has been placed on top of the dome, and a large but light ball is hoisted thereon at ten minutes before mean noon of every day, except Sundays and the national holidays. After the ball is up, the pulley is connected with an electro-magnetic battery, and at the instant of noon the circuit is broken by the Assistant in the chronometer room.

A more detailed account of the buildings and instruments will be found in "*Report on the plan and construction of the Depot of Charts and Instruments, with a description of the instruments, &c.*: Washington, 1845;" and in the volume of "*Astronomical Observations made during the year* 1845 *at the National Observatory:* Washington, 1846."

The general supervision of the Observatory is intrusted to the Bureau of Navigation. Up to the 28th day of April, when he was ordered as Superintendent of the Observatory, Rear-Admiral Charles H. Davis was the Chief of this Bureau; he was succeeded by Captain Percival Drayton. This distinguished and lamented officer died on the 4th of August, and was succeeded by Commodore Thornton A. Jenkins, who is at present the Chief of the Bureau.

In 1865, on the 9th of February, died suddenly Captain James M. Gilliss, the Superintendent of the Observatory. From his remarkable capacity for business and earnest devotion to practical astronomy, he was admirably fitted to be the head of such an institution; and as such his loss in the meridian of life is earnestly to be deplored; his personal qualities endeared him to all in the Observatory, and his tenderly sympathetic character consulted the feelings and interest of all connected with the Institution, in the memory of whom he will ever be endeared.

Just a week after the death of Captain Gilliss, died also suddenly Professor Alexander G. Pendleton. On account of a chronic ophthalmia, Professor Pendleton had been compelled to cease from observing and computing, and was ordered to the duty of selecting and preparing for despatch the charts and publications necessary for ships at sea. In this duty he rendered effective and valuable services. Professor Pendleton had been on duty for many years in connection with the Coast Survey, and the reports of the late eminent Superintendent speak in very favorable terms of his services. Professor Pendleton was in the prime of life, in apparently the most vigorous health, and his death was entirely unexpected. In all the relations of life his was a beautiful character; and as an efficient officer, in the sphere of his duties, his death is greatly to be lamented.

The department of Charts was in charge of Commander W. B. Whiting and Professor Pendleton; Commander Whiting being charged with keeping the records and accounts; and on the 22d of June, Lieutenant Commander T. S. Fillebrown was ordered to the Observatory and was detailed to perform the duties of selecting and preparing for despatch the charts and publications necessary for ships at sea, duties previously performed by Professor Pendleton.

The department of Nautical Instruments was in charge of Mr. Joseph A. Rogers "Aid" until the 12th of April, when he was detached from the Observatory on leave of absence, and succeeded in this department by Professor John R. Eastman, who continued in charge until the 1st of August, when he was relieved by Lieutenant Commander A. W. Johnson, who had been ordered to the Observatory on the 18th of July.

The officer in charge of this department was assisted by Mr. John Clark, the Machinist.

The duties of the department involve the examination and inspection of new instruments, or those recently purchased; the selection of the nautical instruments for vessels fitting for sea; a daily comparison of all chronometers belonging to the government and on deposit for trial; the dropping of the time ball at noon; and the accounts relating to the receipts and expenditures of instruments at the several naval stations. The Meteorological Journal is also under his care, and is daily examined and verified by him.

The routine of astronomical observation has continued the same as in the previous years.

The Equatorial Instrument has remained in charge of Mr. James Ferguson, the Assistant Astronomer. Observations have been made throughout the year by him and Professor Asaph Hall, on alternate nights.

Professor Yarnall has had charge of the Meridian Transit Instrument, assisted by Professor John R. Eastman, promoted on the 17th of February to the position of Professor of Mathematics United States Navy, and Mr. Charles Thirion, who was promoted to the position of "Aid" on the 22d of July.

The Mural Circle has been in charge of Professor Simon Newcomb, assisted by Professor William Harkness and Mr. Myrick H. Doolittle, "Aid." Professor Harkness was detached from the Observatory with orders to sea on the 4th of October, and Mr. Joseph A. Rogers took his place on the Mural Circle.

The Prime Vertical Transit remained in charge of Professor Newcomb, with Professor Harkness as Assistant, until October 4th. After that date Professor Hall acted as voluntary Assistant.

The Great Transit Circle of Pistor and Martins arrived in the month of October, 1865. Preparations for its reception and mounting had been completed, as far as possible, some time before. The boxes containing the parts of the instrument were opened, by order of the Superintendent, on Monday, October 16th. The work of putting the instrument in place was commenced on the Monday following, by setting the microscope and V holders into the piers with plaster, and was completed on Wednesday, November 8th. It was then placed in charge of Professor Newcomb. The work of determining the instrumental errors, especially those of division, was immediately commenced, and in it Professors Hall and Eastman, and Messrs. Rogers and Thirion, rendered zealous and voluntary assistance. A detailed description of the instrument, with a critical investigation of its errors, will be found in Appendix I, to this volume.

Professor Jos. E. Nourse was ordered to the Observatory on the 21st of September, and was assigned to duty as Librarian, &c.

Professor M. H. Beecher reported for duty in September, and was assigned such duty as the condition of his health permitted him to perform.

Mr. Thomas Harrison, as both Secretary and Disbursing Officer, has charge of the official correspondence and accounts of the establishment.

The watchmen are Mr. Thomas Hayes and Mr. Dennis Horrigan, who, in addition to their appropriate duties as wardens of the building and public properties, are also required to keep the Meteorological Journal of the Observatory, under supervision of the proper officer.

THE MERIDIAN TRANSIT INSTRUMENT.

This instrument was employed during the year as follows:

With exceptions, from accidental causes, the Moon was observed at every visible transit, and, in connection with it, some or all of the Moon-culminating stars of the British Nautical Almanac. Observations of the Sun, and the planets Venus and Mercury, were omitted only on Sundays and exceptional cases like the preceding.

Mars, Jupiter, Saturn, Uranus, and Neptune, were frequently observed, and Vesta, Juno, Pallas, Astræa, Hebe, Iris, Flora, Eunomia, Psyche, Massalia, Euterpe, Angelina, and Ausonia, were observed one or more times. The other objects of observation were: Stars used for comparison by the Equatorial in this or former years; stars of Lacaille's Catalogue north of $-45°$; stars whose declinations had been determined with the Mural Circle, either in its special work, or in the mural zones observed prior to 1850; the standard circumpolar and time stars of Dr. B. A. Gould, published in a report to the Superintendent of the United States Coast Survey, and a few others not properly to be classed in either of these enumerations.

The transit system consists of five groups or tallies of vertical threads, and in addition to these there are three vertical threads, movable by a micrometer screw, and two stationary horizontal ones. With the clamp end of the axis to the east, the tallies are named in the order of the transit of stars above the pole A, B, C, D, and E; and E, D, C, B, and A, when the clamp is to the west.

The tally over which an object has been observed is shown by inspection of the intervals between the threads.

The individual threads of each tally are designated by the numbers 1, 2, 3, 4, 5, for A, C, and E; and 1, 2, 3, for B and D respectively. One vertical thread, A_6, is outside of tally A, and another, E_6, is outside of E. These two, with A_5, B_1, C_5, D_3, and E_1, constitute a system over which transits with eye and ear may be conveniently observed.

From a mean of the observed transits of Polaris, δ Ursæ Minoris, and 51 Cephei, the equatorial intervals between each thread and the mean of B_1, B_2, B_3, C_1, C_2, C_3, C_4, C_5, D_1, D_2, D_3, were found to be as follows; the notation corresponding to clamp east:

EQUATORIAL INTERVALS.

Thread.	Interval.	Thread.	Interval.	Thread.	Interval.	Thread.	Interval.	Thread.	Interval.
	s.		s.		s.		s.		s.
A_1	+ 35.949			C_1	+ 2.234	D_1	— 11.827	E_1	— 30.207
A_2	+ 34.563			C_2	+ 1.257	D_2	— 13.021	E_2	— 32.595
A_3	+ 33.370	B_1	+ 14.938	C_3	+ 0.050	D_3	— 15.027	E_3	— 33.833
A_4	+ 32.190	B_2	+ 12.992	C_4	— 1.136			E_4	— 35.123
A_5	+ 29.857	B_3	+ 11.715	C_5	— 2.175			E_5	— 36.439

The interval adopted for $A_6 = 44s.944$, and for $E_6 = 44s.962$.

Except in a very few cases, when the registering apparatus was out of order, the times of transit of all objects more than 5° distant from the pole were recorded by means of the electro-chronograph, described in the introduction to the transit observations for the year 1864. The excepted cases are mentioned in the foot-notes to the printed observations.

INSTRUMENTAL ERRORS.

Aided by a collimating eye-piece, the errors of level and collimation were obtained by reversing the instrument over a basin of mercury, and measuring with the micrometer-screw of the eye-piece the distance between the central thread and its image seen in the mercury. If we represent by 2Δ the distance of the central thread west of its image when the clamp-end of the axis is east; by $2\Delta'$ the same quantity when the clamp is west; by p the excess of

the radius of the clamp-pivot divided by the distance between the pivots; by r the reduction of the central thread to the mean of the system B_1, B_2, B_3, C_1, C_2, C_3, C_4, C_5, D_1, D_2, D_3, in each tally; and by a the correction for diurnal aberration $= -0^s.016$ in this latitude, we have:

$$c = \tfrac{1}{2}(\Delta - \Delta^1) - p + r - a, \text{ for clamp east.}$$
$$c = -\tfrac{1}{2}(\Delta - \Delta^1) + p + r - a, \text{ for clamp west.}$$
$$b = -\tfrac{1}{2}(\Delta + \Delta^1) - p, \text{ for clamp east.}$$
$$b = -\tfrac{1}{2}(\Delta + \Delta^1) + p, \text{ for clamp west.}$$

The value of p as determined in 1864 was, $p = +0^s.008$; the numerical value of r for the current year is $r = +0^s.050$.

All the observations for determining the errors of collimation and their results are given in the subjoined table, in which r the value of a revolution of the micrometer is $1^s.5865$. When great changes occur in the values of c between consecutive dates, they have been caused by adjustment with the collimating screws.

Date.	2Δ	$2\Delta^1$	C. E.	C. W.	Date.	2Δ	$2\Delta^1$	C. E.	C. W.
1865. h.	r.	r.	s.	s.	1865. h.	r.	r.	s.	s.
Jan. 5, 7	− 0.04	− 0.22	− 0.002	− 0.030	August 14, 11	− 0.09	− 0.04	− 0.094	+ 0.062
12, 18	+ 0.03	− 0.13	0.010	0.022	30, 19	+ 0.12	0.08	+ 0.006	− 0.038
Feb. 2, 19	+ 0.20	+ 0.03	0.006	0.026	Sept. 8, 10	0.21	0.36	0.154	0.186
28, 21	− 0.07	− 0.22	− 0.014	0.018	18, 12	0.18	0.28	0.110	0.142
March 13, 21	− 0.14	0.34	+ 0.006	0.038	Oct. 3, 21	0.31	− 0.07	0.068	0.100
April 2, 0	+ 0.07	0.20	0.034	0.066	13, 16	0.61	0.00	0.170	0.202
19, 1	0.13	0.22	0.066	0.098	17, 13	0.53	+ 0.14	0.082	0.114
May 11, 5	0.00	0.47	0.114	0.146	21, 2	0.40	− 0.05	+ 0.106	− 0.138
19, 4	0.02	0.42	0.102	0.134	Nov. 2, 17	0.46	+ 0.55	− 0.110	+ 0.078
June 6, 8	0.24	0.45	0.202	0.234	2, 18	0.21	0.12	− 0.038	+ 0.006
9	0.11	0.30	0.090	0.122	14, 2	0.48	0.20	+ 0.038	− 0.070
7, 4	+ 0.12	0.42	0.142	0.174	19, 15	0.45	0.00	0.106	0.138
July 4, 4	0.00	0.52	0.134	0.166	30, 20	+ 0.54	+ 0.34	0.006	0.038
19, 6	− 0.04	0.41	0.074	0.106	Dec. 5, 18	− 0.24	− 0.45	+ 0.010	− 0.042
August 1, 6	+ 0.06	0.42	0.117	0.149	20, 19	0.21	0.12	− 0.110	+ 0.078
2, 7	0.07	0.36	0.097	0.129	1866.				
11, 8	+ 0.18	− 0.52	+ 0.206	− 0.238	Jan. 1, 18	− 0.24	− 0.28	− 0.058	+ 0.026

When observations to determine the value of c are tolerably accordant on successive dates, a mean is adopted for the whole period of such accordance, and where the differences are too great to permit inference that they may be due to errors of observation, the changes are assumed to have been uniformly progressive. The values used in the reductions are stated at the bottom of each page of the printed observations.

The distance which the line of collimation passes from the pole, and the point in which the meridian intersects the equator, are used instead of errors of level and azimuth. When the error of collimation is known, the first distance is directly obtained by observations of stars very near the pole, and may be represented by n. The second distance is determined by combining the value of n with the error of the level. Designating the latter by b, the latitude of the Observatory by φ, and representing this second distance by m, we obviously have

$$m = -n \tan \varphi + b \sec \varphi;$$

and the correction applicable to the observed transit of any star to reduce it to the meridian will be obtained by the formula

$$\text{Correction} = m + n \tan \delta + c \sec \delta,$$

in which δ represents the apparent declination of the star.

An approximate clock error having been first obtained from one or more equatorial stars, the value of n was determined generally by comparing the time of transit of Polaris, δ Ursæ Minoris, or λ Ursæ Minoris, with the right ascension given in the star list of Dr. B. A. Gould, before mentioned. There were a few occasions when the preceding named stars were not available, and it was necessary to select others from the same list; but, in all cases, both the name of the star and the resulting value are given in the following table, showing the values of n during the year:

TABLE OF VALUES OF *n*.

Date.	Determining stars.	*n*.
1865.		s.
Jan. 4	51 Cephei	+ 0.423
	Polaris	.469
	δ Ursæ Minoris, S. P.	.347
5	β Cephei	.470
	Polaris	.500
	δ Ursæ Minoris, S. P.	.397
7	δ Ursæ Minoris, S. P.	.194
11	Polaris	.183
	δ Ursæ Minoris, S. P.	.108
12	β Cephei	.164
	δ Ursæ Minoris, S. P.	.124
	λ Ursæ Minoris, S. P.	.111
14	β Cephei	.084
16	δ Ursæ Minoris, S. P.	.192
18	Polaris, S. P.	.262
19	λ Ursæ Minoris, S. P.	.136
	Polaris, S. P.	.189
	δ Ursæ Minoris	.119
20	β Cephei	.084
	Polaris	.147
	δ Ursæ Minoris, S. P.	.025
	λ Ursæ Minoris, S. P.	+ .035
25	Polaris	— .036
	Polaris, S. P.	+ .109
26	δ Ursæ Minoris, S. P.	.091
	λ Ursæ Minoris, S. P.	.009
28	β Cephei	.069
29	δ Ursæ Minoris	.119
30	β Cephei	.124
	Polaris	.053
	δ Ursæ Minoris, S. P.	.023
	λ Ursæ Minoris, S. P.	.097
Feb. 1	Polaris	.037
	δ Ursæ Minoris, S. P.	.080
	δ Ursæ Minoris	.063
2	Polaris	.018
	δ Ursæ Minoris, S. P.	.050
	λ Ursæ Minoris, S. P.	.029
4	Polaris	.150
	δ Ursæ Minoris, S. P.	.102
5	δ Ursæ Minoris, S. P.	.036
6	Polaris	.158
	δ Ursæ Minoris, S. P.	.080
13	Polaris	.219
	δ Ursæ Minoris, S. P.	.176
14	Polaris	.205
	δ Ursæ Minoris, S. P.	.324
	Polaris, S. P.	.257
19	ε Ursæ Minoris	.238
	δ Ursæ Minoris	.261
20	Polaris	.184
	δ Ursæ Minoris, S. P.	.184
21	Polaris	.194
	δ Ursæ Minoris, S. P.	.128
	λ Ursæ Minoris, S. P.	.163
24	Polaris	.136
	δ Ursæ Minoris, S. P.	.064
27	Polaris	.226
28	δ Ursæ Minoris, S. P.	.245
	λ Ursæ Minoris, S. P.	.278
Mar. 4	Polaris	.113
	δ Ursæ Minoris, S. P.	.143
	Polaris, S. P.	.279
6	Polaris	.200
	β Cephei	.157
7	Polaris	.170
	λ Ursæ Minoris, S. P.	.268
11	δ Ursæ Minoris, S. P.	.254
	λ Ursæ Minoris, S. P.	.263
13	Polaris	.149
	δ Ursæ Minoris, S. P.	.177
	λ Ursæ Minoris, S. P.	+ 0.217

Date.	Determining stars.	*n*.
1865.		s.
Mar. 13	Polaris, S. P.	.206
17	Polaris	.009
	λ Ursæ Minoris, S. P.	.149
18	Polaris	.092
	λ Ursæ Minoris, S. P.	.156
	ε Ursæ Minoris	.129
20	β Cephei	.179
22	Polaris, S. P.	.124
23	λ Ursæ Minoris, S. P.	.194
26	β Cephei	.160
27	Polaris	.053
	λ Ursæ Minoris, S. P.	.204
29	Polaris	.144
April 1	Polaris	.230
	Polaris, S. P.	.245
4	Polaris	.044
8	Polaris	.080
	Polaris, S. P.	.093
12	Polaris	.102
13	Polaris, S. P.	.006
	Polaris	.118
15	δ Ursæ Minoris	.000
16	Polaris	.107
17	Polaris, S. P.	.038
18	Polaris, S. P.	+ .054
	β Cephei	— .077
23	Polaris	+ .197
24	Polaris, S. P.	.151
	Polaris	.115
25	Polaris, S. P.	.110
	Polaris	.069
26	Polaris, S. P.	.166
27	Polaris, S. P.	.104
28	Polaris, S. P.	+ .162
29	Polaris, S. P.	— .378
30	Polaris	.376
May 1	Polaris, S. P.	.485
2	β Cephei, S. P.	.419
	Polaris, S. P.	.325
	Polaris	.354
3	Polaris, S. P.	.369
	Polaris	.372
5	Polaris	— .105
6	Polaris, S. P.	+ .043
7	Polaris, S. P.	— .033
11	Polaris	.164
12	Polaris, S. P.	.132
	Polaris	.224
13	Polaris, S P,	.013
14	λ Ursæ Minoris	.127
	Polaris	.110
15	Polaris, S. P.	.071
	Polaris	.053
16	Polaris, S. P.	.037
	β Cephei	.131
	Polaris	— .137
17	Polaris, S. P.	+ .023
	Polaris	— .140
22	Polaris	.146
23	Polaris, S. P.	.102
	Polaris	.181
24	Polaris, S. P.	.030
28	Polaris	.227
29	Polaris, S. P.	.188
	Polaris	.170
30	Polaris, S. P.	.136
	Polaris	.174
June 1	Polaris, S. P.	.119
2	Polaris, S. P.	.052
	Polaris	.199
3	Polaris, S. P.	.043
4	Polaris	— 0.186

Date.	Determining stars.	n.
1865.		s.
June 7	Polaris, S. P.	− 0.081
	Polaris	.305
8	δ Ursæ Minoris	.130
	Polaris	.245
9	Polaris, S. P.	.052
10	Polaris, S. P.	.177
	ε Ursæ Minoris	.231
11	δ Ursæ Minoris	.221
	λ Ursæ Minoris	.232
12	Polaris, S. P.	.066
18	Polaris	.300
21	Polaris	.267
22	Polaris, S. P.	.110
	δ Ursæ Minoris	.228
	Polaris	.235
23	δ Ursæ Minoris	.091
24	Polaris, S. P.	.063
	δ Ursæ Minoris	.251
27	Polaris, S. P.	.103
28	Polaris, S. P.	.086
	δ Ursæ Minoris	.219
	Polaris	.159
29	Polaris, S. P.	.039
	ε Ursæ Minoris	.182
	δ Ursæ Minoris	.136
July 2	Polaris, S. P.	.084
3	δ Ursæ Minoris	.163
6	δ Ursæ Minoris	.300
7	ε Ursæ Minoris	.451
	δ Ursæ Minoris	.260
	Polaris	.330
13	Polaris, S. P.	.182
	δ Ursæ Minoris	.191
	Polaris	.258
14	Polaris, S. P.	.172
	δ Ursæ Minoris	.329
17	Polaris, S. P.	.202
	δ Ursæ Minoris	.330
	Polaris	.309
18	Polaris, S. P.	.111
20	Polaris, S. P.	.115
	δ Ursæ Minoris	.209
	λ Ursæ Minoris	.146
	Polaris	.185
21	Polaris, S. P.	.177
	ε Ursæ Minoris	.243
	δ Ursæ Minoris	.253
22	Polaris, S. P.	.133
25	δ Ursæ Minoris	.214
26	Polaris, S. P.	.113
	δ Ursæ Minoris	.321
	Polaris	.313
27	Polaris, S. P.	.027
	Polaris	.220
28	ε Ursæ Minoris	.116
	δ Ursæ Minoris	.110
	Polaris	.242
Aug. 2	ε Ursæ Minoris	.277
	δ Ursæ Minoris	.320
3	δ Ursæ Minoris	.331
7	δ Ursæ Minoris	.334
	Polaris	.429
8	Polaris, S. P.	.198
	δ Ursæ Minoris	.431
	Polaris	.392
9	Polaris, S. P.	.201
	ε Ursæ Minoris	.299
	δ Ursæ Minoris	.282
10	Polaris	− .293
11	Polaris, S. P.	+ .145
	ε Ursæ Minoris	.000
	δ Ursæ Minoris	.040
	Polaris	.041
12	δ Ursæ Minoris	.120
	Polaris	.071
14	δ Ursæ Minoris	+ 0.030

Date.	Determining stars.	n.
1865.		s.
Aug. 15	δ Ursæ Minoris	+ 0.146
	λ Ursæ Minoris	.110
	Polaris	.021
16	Polaris, S. P.	.209
	δ Ursæ Minoris	.020
19	Polaris, S. P.	.313
	β Cephei	+ .015
	Polaris	− .045
21	Polaris, S. P.	+ .254
23	β Cephei	.106
	Polaris	.080
24	Polaris, S. P.	.184
	δ Ursæ Minoris	.096
	λ Ursæ Minoris	.048
	Polaris	.052
25	Polaris, S. P.	.142
	δ Ursæ Minoris	.088
	λ Ursæ Minoris	+ .047
	Polaris	− .002
26	Polaris, S. P.	+ .127
	δ Ursæ Minoris	− .042
	λ Ursæ Minoris	.040
	Polaris	− .004
27	Polaris, S. P.	+ .164
28	Polaris, S. P.	.135
29	ε Ursæ Minoris	+ .007
	Polaris	− .058
30	Polaris, S. P.	+ .080
	ε Ursæ Minoris	.082
	δ Ursæ Minoris	.046
31	Polaris, S. P.	.191
	δ Ursæ Minoris	.043
	λ Ursæ Minoris	+ .090
	Polaris	− .047
Sept. 1	λ Ursæ Minoris	+ .180
	Polaris	.039
2	λ Ursæ Minoris	.069
5	Polaris, S. P.	.214
	Polaris	.022
6	Polaris, S. P.	+ .162
	Polaris	− .077
7	Polaris, S. P.	+ .137
11	λ Ursæ Minoris	.063
	Polaris	.019
12	Polaris, S. P.	+ .175
	λ Ursæ Minoris	− .023
	Polaris	− .037
14	Polaris, S. P.	+ .097
	Polaris	.004
15	Polaris, S. P.	+ .085
	Polaris	− .102
16	Polaris, S. P.	+ .097
	Polaris	− .032
19	Polaris, S. P.	+ .201
	Polaris	− .044
20	Polaris, S. P.	+ .239
	Polaris	− .069
21	Polaris, S. P.	+ .100
22	Polaris	.008
23	Polaris, S. P.	+ .177
	Polaris	− .074
26	Polaris, S. P.	+ .038
	ε Ursæ Minoris	.052
	λ Ursæ Minoris	+ .047
	Polaris	− .149
27	Polaris, S. P.	+ .095
	λ Ursæ Minoris	+ .044
	Polaris	− .080
28	Polaris, S. P.	+ .070
	Polaris	− .055
29	Polaris, S. P.	+ .193
	λ Ursæ Minoris	.161
	Polaris	.049
30	Polaris, S. P.	.268
Oct. 2	Polaris	.113
5	Polaris, S. P.	+ 0.057

Date.		Determining stars.	n.
1865.			n.
Oct.	5	ε Ursæ Minoris	— 0.029
		Polaris	.089
	6	λ Ursæ Minoris	+ .010
		Polaris	.051
	7	Polaris, S. P.	+ .137
		Polaris	— .000
	8	δ Ursæ Minoris, S. P.	— .028
	9	Polaris, S. P.	+ .225
		δ Ursæ Minoris	+ .049
		λ Ursæ Minoris	— .013
		Polaris	.065
		δ Ursæ Minoris, S. P.	.079
	10	Polaris, S. P.	.074
		ε Ursæ Minoris	.155
		δ Ursæ Minoris	.133
		λ Ursæ Minoris	.176
		Polaris	.212
		δ Ursæ Minoris, S. P.	— .000
	11	Polaris, S. P.	+ .064
		ε Ursæ Minoris	— .053
		δ Ursæ Minoris	.075
		λ Ursæ Minoris	.170
		Polaris	— .177
	12	Polaris, S. P.	+ .043
	15	Polaris, S. P.	— .190
	16	ε Ursæ Minoris	.120
		δ Ursæ Minoris	.161
		Polaris	.336
	17	Polaris, S. P.	— .234
	19	Polaris, S. P.	+ .155
	20	δ Ursæ Minoris	— .053
		Polaris	.170
		Polaris, S. P.	.036
	21	ε Ursæ Minoris	.092
		δ Ursæ Minoris	— .066
		Polaris	+ .030
	24	Polaris	— .207
		Polaris, S. P.	+ .197
	25	ε Ursæ Minoris	— .049
		δ Ursæ Minoris	.136
		Polaris	.200
		δ Ursæ Minoris, S. P.	.228
		Polaris, S. P.	.143
	26	δ Ursæ Minoris	.078
		λ Ursæ Minoris	.105
	27	Polaris, S. P.	.155
	28	δ Ursæ Minoris	.218
		Polaris	.345
	29	λ Ursæ Minoris	.033
	30	ε Ursæ Minoris	.052
	31	Polaris, S. P.	.105
Nov.	1	ε Ursæ Minoris	.174
		Polaris	— .258
	5	ε Ursæ Minoris, S. P.	+ .053
		δ Ursæ Minoris, S. P.	— .107
		Polaris, S. P.	.095
	6	δ Ursæ Minoris	.095
		Polaris	.068
		Polaris, S. P.	.053
	7	δ Ursæ Minoris	.110
		λ Ursæ Minoris	.100
		Polaris	.238
		δ Ursæ Minoris, S. P.	.013
		λ Ursæ Minoris, S. P.	.000
		Polaris, S. P.	.087
	8	ε Ursæ Minoris	.098
		δ Ursæ Minoris	.108
		λ Ursæ Minoris	.043
		Polaris	.135
	9	λ Ursæ Minoris	.172
		Polaris	.146
		λ Ursæ Minoris, S. P.	.137
		Polaris, S. P.	.053
	10	δ Ursæ Minoris	— .111

Date.		Determining stars.	n.
1865.			n.
Nov.	10	λ Ursæ Minoris	— 0.089
		Polaris	.214
		Polaris, S. P.	.129
	11	δ Ursæ Minoris	.188
		λ Ursæ Minoris	.125
		Polaris	— .199
		Polaris, S. P.	+ .076
	12	Polaris, S. P.	— .102
	13	ε Ursæ Minoris	.243
		δ Ursæ Minoris	.203
		λ Ursæ Minoris	.133
		Polaris	.239
		Polaris, S. P.	.177
	14	δ Ursæ Minoris	.214
		Polaris	.234
		Polaris, S. P.	.140
	15	λ Ursæ Minoris	.161
		Polaris	.311
		ε Ursæ Minoris, S. P.	.162
		δ Ursæ Minoris, S. P.	.117
		Polaris, S. P.	.121
	16	ε Ursæ Minoris	.214
		δ Ursæ Minoris	.209
	17	δ Ursæ Minoris	.229
		λ Ursæ Minoris	.086
		Polaris	.252
		Polaris, S. P.	.198
	18	λ Ursæ Minoris	— .318
	23	Polaris, S. P.	+ .126
	24	ε Ursæ Minoris	.137
		δ Ursæ Minoris	.113
		λ Ursæ Minoris	.096
		Polaris	.113
		Polaris, S. P.	.131
	25	ε Ursæ Minoris	+ .023
		δ Ursæ Minoris	— .009
		Polaris	— .026
	26	Polaris, S. P.	+ .061
	27	ε Ursæ Minoris	+ .035
		δ Ursæ Minoris	— .001
		Polaris	— .060
		Polaris, S. P.	+ .071
	28	Polaris	— .066
	29	ε Ursæ Minoris, S. P.	+ .082
		δ Ursæ Minoris, S. P.	— .092
Dec.	1	ε Ursæ Minoris	+ .430
		δ Ursæ Minoris	.385
		Polaris	+ .391
	7	ε Ursæ Minoris, S. P.	— .110
		δ Ursæ Minoris, S. P.	.125
		Polaris, S. P.	.284
	8	Polaris	.077
	14	Polaris	.214
		δ Ursæ Minoris, S. P.	.225
	15	Polaris	.054
		ε Ursæ Minoris, S. P.	— .069
		δ Ursæ Minoris, S. P.	+ .216
		δ Polaris, S. P.	.024
	21	β Cephei	.088
		ε Ursæ Minoris, S. P.	.087
		δ Ursæ Minoris, S. P.	.021
		Polaris, S. P.	.066
	22	Polaris	+ .033
		ε Ursæ Minoris, S. P.	— .022
		δ Ursæ Minoris, S. P.	+ .117
	23	ε Ursæ Minoris, S. P.	.094
		δ Ursæ Minoris, S. P.	.246
	27	β Ursæ Minoris, S. P.	+ .347
	28	Polaris	— .051
		ε Ursæ Minoris, S. P.	.076
		δ Ursæ Minoris, S. P.	.076
		Polaris, S. P.	— .023
		δ Ursæ Minoris	+ .054
	30	δ Ursæ Minoris, S. P.	+ 0.174

It will readily be seen that if m be neither large nor subject to great variation, it will be eliminated through the clock error, and therefore for astronomical purposes it may be entirely neglected. In effect, it actually was combined with the clock error in the reduction of observations.

The clock error was obtained from the corrected transits of one or more of the standard stars, whose mean places for 1870.0 and proper motions are given in the following table. The apparent places of the same stars at the date of observation were obtained by application of the corrections for precessions, &c., computed with constants of the American Ephemeris, including all the terms which can affect the second decimal of the seconds. The difference between the corrected transit and the computed apparent A. R. is a clock error for the instant of observation. The several results were then divided into groups, during which the clock rate might be supposed to have been uniform, and the means of the several groups were adopted as the errors at the corresponding mean of the times of transit. Usually there were but two groups for each day; one including the observations by day, and the other the observations by night.

The clock rate was obtained by two methods:

First. By equations of condition between the several stars of a group.

Second. By the change of error in the intervals between the groups, corrected for personal equation when necessary, and divided by the time elapsed.

The rate adopted for any group was a mean deduced from the changes of error between it and the preceding and following groups.

The clock used in observing during this year was that made by Charles Frodsham.

The following list contains the names of all the stars used for time and azimuth, with their adopted mean right ascensions and proper motions for the fictitious epoch 1870.0—the instant when the sun's mean longitude was 280°. Of most of them, the mean places and the proper motions have been derived from the cited discussion by Dr. B. A. Gould, and the others were obtained from a comparison of the observations at Greenwich, Paris, and Washington. Dr. Gould's list is, commencing with the year 1865, also published in the American Ephemeris.

MEAN R. A. FOR 1870.0, AND PROPER MOTIONS OF STARS USED IN THE REDUCTION OF OBSERVATIONS MADE WITH THE TRANSIT INSTRUMENT.

Name.	α	μ	Name.	α	μ
		s.			s.
α Andromedæ	0 1 40.29	+ 0.010	α Tauri	4 28 27.79	+ 0.004
γ Pegasi	0 6 32.61	+ .001	ω Eridani	4 39 0.25	+ .006
12 Ceti	0 23 24.27	— .002	ι Aurigæ	4 48 31.82	— .001
β Ceti	0 37 3.74	+ .014	π Orionis	4 57 8.57	+ .002
ε Piscium	0 56 11.93	— .003	ε Leporis	4 59 57.52	.000
Polaris	1 11 16.30	+ .073	β Orionis	5 8 17.45	.000
θ Ceti	1 17 31.55	— .005	β Tauri	5 18 4.51	+ .002
η Piscium	1 24 31.72	+ .001	δ Orionis	5 25 21.97	.001
ν Piscium	1 34 40.02	— .004	α Leporis	5 26 59.88	+ .002
o Piscium	1 38 31.91	+ .006	ε Orionis	5 29 37.06	— .001
β Arietis	1 47 27.73	+ .006	α Columbæ	5 34 56.61	— .003
α Arietis	1 59 50.94	+ .014	α Orionis	5 48 8.07	+ .002
ξ^1 Ceti	2 6 6.67	— .004	ν Orionis	6 0 9.02	.001
67 Ceti	2 10 30.01	+ .007	μ Geminorum	6 15 5.76	.006
ξ^2 Ceti	2 21 14.94	+ .001	γ Geminorum	6 30 12.11	+ .004
γ Ceti	2 36 33.98	— .009	51 Cephei	6 38 42.35	— .106
α Ceti	2 55 29.14	— .002	α Canis Majoris	6 39 25.09	— .041
δ Arietis	3 4 11.94	+ .010	ε Canis Majoris	6 53 31.08	+ .001
ζ Arietis	3 7 25.96	— .002	γ Canis Majoris	6 57 52.69	.005
e Eridani	3 26 48.33	— .070	δ Canis Majoris	7 3 6.40	.000
η Tauri	3 39 45.59	+ .001	δ Geminorum	7 12 21.48	.000
γ Eridani	3 51 57.88	.004	α^2 Geminorum	7 26 18.13	— .013
o^1 Eridani	4 5 31.27	.000	α Canis Minoris	7 32 29.82	.048
γ Tauri	4 12 23.84	.009	β Geminorum	7 37 21.51	— .047
ε Tauri	4 21 1.66	+ .008	ϕ Geminorum	7 45 32.35	.000

Name.	α	μ	Name.	α	μ
		s			s.
6 Cancri	7 55 31.83	— 0.005	κ Ophiuchi	16 51 30.90	— 0.022
ρ Argus	8 2 0.54	.005	ε Ursæ Minoris	16 59 22.83	+ .015
η Cancri	8 25 11.30	.005	α Herculis	17 8 43 22	— .001
ε Hydræ	8 39 53.46	.012	b Ophiuchi	17 18 25.94	.000
κ Cancri	9 0 42.24	.003	a Ophiuchi	17 28 54.01	+ .007
83 Cancri	9 11 43.36	.012	μ Herculis	17 41 22.29	— .025
α Hydræ	9 21 11.96	.001	γ^2 Sagittarii	17 57 27.46	+ .005
ε Leonis	9 38 28.12	.003	μ Sagittarii	18 5 59.34	— .001
μ Leonis	9 45 21.89	.019	η Serpentis	18 14 34.94	— .041
π Leonis	9 53 20.57	.003	δ Ursæ Minoris	18 14 16.46	+ .029
α Leonis	10 1 26.83	— .017	1 Aquilæ	18 28 7.90	— .003
γ Leonis	10 12 48.13	+ .020	α Lyræ	18 32 32.21	+ .018
ρ Leonis	10 25 57.93	.000	β Lyræ	18 45 16.81	.000
l Leonis	10 42 25.34	— .001	σ Sagittarii	18 47 12.22	.000
χ Leonis	10 58 18.64	— .024	ζ Aquilæ	18 59 26.04	— .003
δ Leonis	11 7 11.55	+ .012	ω Aquilæ	19 11 42.84	+ .003
δ Crateris	11 12 50.58	— .008	δ Aquilæ	19 18 56.57	.015
τ Leonis	11 21 15.11	+ .002	κ Aquilæ	19 29 53.77	.000
ν Leonis	11 30 17.61	.000	γ Aquilæ	19 40 4.73	.001
β Leonis	11 42 25.64	— .034	α Aquilæ	19 44 26.38	.036
o Virginis	11 58 35.27	— .013	β Aquilæ	19 48 55.62	+ .002
ε Corvi	12 3 26.58	+ .001	λ Ursæ Minoris	19 54 16.77	— .071
η Virginis	12 13 15.34	— .004	α^2 Capricorni	20 10 50.37	+ .003
β Corvi	12 27 33.65	.004	ρ Capricorni	20 21 26.52	— .006
α Canum Venaticorum	12 49 56.60	.020	ε Delphini	20 27 0.09	— .001
θ Virginis	13 3 13.28	.002	α Cygni	20 37 0.02	.000
α Virginis	13 18 20.83	.002	μ Aquarii	20 45 38.38	+ .001
ζ Virginis	13 28 4.23	.019	ζ Cygni	21 7 24.23	— .001
η Bootis	13 48 29.73	— .003	1 Pegasi	21 16 4.56	+ .009
τ Virginis	13 55 1.92	+ .005	β Aquarii	21 24 42.83	.002
α Bootis	14 9 43.94	— .079	ξ Aquarii	21 30 49.76	.006
ρ Bootis	14 26 13.59	.008	ε Pegasi	21 37 48.08	.003
ε Bootis	14 39 18.60	.003	μ Capricorni	21 46 12.42	.023
α Libræ	14 43 41.40	.008	α Aquarii	21 59 6.36	.000
ψ Bootis	14 58 52.58	.010	θ Aquarii	22 9 58.34	.007
β Libræ	15 10 0.83	.007	π Aquarii	22 18 38.24	.000
μ Bootis	15 19 34.83	— .010	η Aquarii	22 28 40.52	.004
α Coronæ Borealis	15 29 11.05	+ .010	ζ Pegasi	22 34 58.67	+ .003
α Serpentis	15 37 51.94	.009	λ Aquarii	22 45 49.79	— .003
ε Serpentis	15 44 20.24	.009	α Piscis Australis	22 50 27.73	+ .024
δ Scorpii	15 52 38.99	— .001	α Pegasi	22 58 17.18	.004
β Scorpii	15 57 52.83	.002	γ Piscium	23 10 25.54	.047
δ Ophiuchi	16 7 32.06	— .006	κ Piscium	23 20 16.09	.005
α Scorpii	16 21 26.41	.000	ι Piscium	23 33 15.90	.026
ζ Ophiuchi	16 30 0.15	+ .001	δ Sculptoris	23 42 9.08	.009
ζ Herculis	16 36 23.18	— .034	ω Piscium	23 52 38.21	+ .010

PERSONAL EQUATION.

To eliminate, as far as possible, the influence upon resulting Right Ascensions which might arise from one observer using clock errors that had been determined from observations of another, on several occasions each observed a group of clock stars within the period embraced by observations of the other. The following are the results; Y., E., and Tr. indicating Professors Yarnall and Eastman and Mr. Charles Thirion, respectively:

Date.	Star.	Y.—E.	Date.	Star.	Y.—E.
		s.			s.
Jan. 19	ϵ Piscium	+ 0.02	Mar. 5	α Ceti	+ 0.12
	δ Piscium	— 0.04	20	ζ Cygni	0.06
Feb. 5	β Lyræ	+ 0.06	July 12	β Orionis	0.19
22	ζ Cygni	0.01		β Tauri	0.06
	α Arietis	0.01		δ Orionis	0.06
Mar. 5	γ Ceti	+ 0.13		ϵ Orionis	+ 0.04
		Y.—Tr.			Y.—Tr.
Jan. 25	η Piscium	+ 0.05	May 16	α Orionis	+ 0.07
Mar. 11	α Ceti	0.08	17	α Canis Minoris	0.14
21	ζ Cygni	0.05		β Geminorum	0.16
April 13	α Tauri	0.09	June 28	α Hydræ	0.17
24	α Tauri	0.15		δ Leonis	0.07
	β Tauri	0.03	July 13	β Orionis	0.06
25	δ Orionis	0.09	14	η Virginis	0.18
	ϵ Orionis	0.07	20	β Leonis	0.01
26	α Orionis	0.10	21	β Corvi	0.10
27	β Orionis	+ 0.08	21	β Leonis	0.08
	β Tauri	— 0.03		η Virginis	0.15
28	α Orionis	+ 0.02		β Corvi	0.17
May 12	β Orionis	0.06		α Virginis	+ 0.08
	β Tauri	+ 0.15			

Or, observations made by Professor Eastman, under the above circumstances, require to be diminished by 0s.06, and those of Mr. Thirion by 0s.09.

EXPLANATION OF THE PRINTED OBSERVATIONS.

Column 1 contains the date and initial letter of the observer's name; the day commencing at apparent noon.

Column 2 contains the name of the object, or its approximate declination, when it is not contained in the catalogues.

The following system for nomenclature was adopted:

1. By the constellation and Bayer letter there given.
2. By the constellation and Flamsteed number there given.
3. By their number in the catalogue.

Exceptions are made in the case of Polaris, λ Ursæ Minoris, and some of Dr. B. A. Gould's list of standard circumpolar stars, to which the number of Hevelius is prefixed.

Other stars found in published catalogues are designated by the name and number in the catalogue.

Column 3 contains the number for reference.

The following abbreviations occur:

O. Arg. N., Oeltzen's Catalogue from Argelander's Northern Zones.

O. Arg. S., Oeltzen's Catalogue from Argelander's Southern Zones.

Weisse (2) for Weisse's Catalogue from Bessel's Zones from 15 to 45 degrees of north declination.

Some anonymous stars used in the comparisons of the Equatorial are denominated by a number followed by the letter W.

Columns 4–14, inclusive, contain the seconds and tenths of the transits over the several threads as noted by the observer at the time, or as subsequently read from the chronographic record. But as there are twenty-one threads, over each of which observations were taken at different times, the numbers over the columns may not represent the thread at which a star was observed, and this can become known only by comparing the observation with the Equatorial intervals.

The transits of stars below the pole are recorded over the several threads from right to left, so that the same numbers correspond to the same threads that they would refer to if the transit occurred above the pole.

Column 15 contains the minutes, seconds, and decimals of a second obtained by taking the mean of the preceding times of transit over the threads observed.

Column 16 contains the sum of the corrections necessary to reduce the numbers of the preceding column to the clock time at which the object crossed the great circle passing through the pole and the point in which the line of collimation intersects the Equator. It consists of two parts:

1. For broken observations of stars from the mean given in column 15 to the mean of the threads B_1, B_2, B_3, C_1, C_2, C_3, C_4, C_5, D_1, D_2, D_3 by the formula,

$$R = \text{Equat. int.} \times \sec \delta;$$

or if the star was so near the pole that the difference between the sine and arc of the reduction was sensible,

$$\text{Sin } R = \sin \text{ Equat. int.} \times \sec \delta.$$

In case of the Moon, the reduction was computed by Prof. Airy's formula, published in the Greenwich Observations:

$$\frac{3600+I}{3600} \times \frac{\text{Sin } \mathbb{)}\text{'s Geo. Z. D.}}{\text{Sin } \mathbb{)}\text{'s App. Z. D.}} \text{Sec } \mathbb{)}\text{'s Geo. Z. D.},$$

in which I represents in seconds of time the Moon's increase of right ascension in one hour of longitude as given in the Nautical Almanac. The factor $\frac{\text{Sin } \mathbb{)}\text{'s Geo. Z. D.}}{\text{Sin } \mathbb{)}\text{'s App. Z. D.}}$ has been tabulated for the latitude of the Observatory as a function of the parallax and geocentric declination.

In case of the Sun and Planets, the correction was computed in the same manner as for stars, and increased by their respective motions in right ascensions during the intervals expressed by the correction.

2. The correction for collimation and polar azimuth computed by the formula

$$\text{Correction} = n \tan \delta + c \sec \delta;$$

of which the methods of obtaining the factors n and c has already been stated. This correction combined with m was usually so small that further modification for the motion and parallax of the Moon in reducing observations of that body was rarely necessary.

Column 17 contains the correction for clock error obtained as stated, and brought forward to the instant of observation by the rate. The clock error used is that obtained by the observer whose initial is given in column 1.

Column 18 contains the apparent right ascension of the object or part of the object actually observed, obtained from the sum of the three columns immediately preceding. When only one limb of the Sun or a planet was observed, the sidereal time of the transit of the semidiameter over the meridian, as given in the American Ephemeris and Nautical Almanac, will be found in the following column. From 273 transits of both limbs of the Sun, observed during the years 1861, 1862, and 1863, and compared with the sidereal times of the semidiameter passing the meridian as given in the American Ephemeris, there results C — O = + 0s.06, a correction applied to the computed value in the few cases when one limb only was observed.

Column 19 contains the corrections applicable to the preceding column to reduce the observations of the stars to their mean places 1870.0, or the instant when the Sun's mean longitude was 280°. These were computed from "constants for the reduction of fixed stars" given in this volume, and in the preparation of which the coefficients are the same as those used in the American Ephemeris and Nautical Almanac. The corrections include no proper motions except those used in the list of time and azimuth stars published in this introduction.

There will be found at the foot of the page the adopted clock and instrumental corrections, observations of the reflected image of the middle wire, position of the clamp E or W, and such notes as the observations called for. The notes are of two classes, viz: Those made at the time of the observation, and those which result from subsequent examination of the observation. The former are printed in Roman, and the latter in Italic letters.

A comparison is given, pp. 411–427 of the observations of the Sun, Moon, and Planets, with their tabular places in the American Ephemeris and Nautical Almanac for 1863.

The several observations of each fixed star reduced to their mean place for 1870.0 are collected in pages 355–392. As a general but not always imperative rule, the results for fundamental polar or clock stars have been excluded when any change in the tabulated places of those stars would affect the resulting right ascension by an amount equal to one-third of such change.

The magnitude of each star, when estimated by the observer at the time of observation, is given in the same tables. Usually, estimates were made from the appearance of the star in the telescope; but with the brighter stars, the conclusion thus arrived at was occasionally combined with unassisted eye estimate made at the same transit. When doubtful, the observer marked his estimate with a colon.

Observations recorded as doubtful and of less weight than usual are indicated by colons, but these marks are never annexed in consequence of accordance or discordance of results. When a result is discordant, reference is had to the original record, and the observation is retained or rejected as is warranted by the evidence there found. All rejected results are enclosed in parentheses.

Pages 447–490 contain a catalogue of the stars observed during the year, reduced to the fictitious epoch 1870.0.

The observations have been mainly reduced by Professor Yarnall; the catalogue has been compiled by Professor Eastman; and Mr. Charles Thirion, "Aid," assisted as required in computing, in copying, and comparing anonymous stars with star catalogues, and preparing a list of observations of the Sun, Moon and Planets. Professor Eastman also rendered much assistance in copying.

THE MURAL CIRCLE.

During the year 1865, the Mural Circle was employed in observations of the Sun, Moon, and larger planets; of such asteroids as could be seen with it; of fundamental stars; of stars for the reduction of zone observations with the old Meridian Circle previous to 1850; and of comparison stars used in observations with the Equatorial.

MICROMETER AND TRANSIT WIRES.

The diaphragm inserted in October, 1864, remained in use throughout 1865. No change was made in the adopted intervals between the middle wire and each of the other twelve, which are as follows:

Wire	I.	II.	III.	IV.	1.	2.	V.	4.	5.	VI.	VII.	VIII.	IX.
Interval	s. +53.6	s. +40.6	s. +28.8	s. +15.7	s. + 3.3	s. + 1.6	s. 0.0	s. — 1.7	s. — 3.5	s. —16.3	s. —28.8	s. —40.8	s. —52.9

INEQUALITY OF THE MICROMETER SCREW.

In the introduction for the last year* it was shown that this inequality had regularly diminished until, at the close of the year, it was less than 0″.1. It was therefore supposed to be insensible during 1865.

VALUE OF A REVOLUTION OF THE MICROMETER SCREW.

The mode of determining this constant is described in the Washington Observations for 1864. The following determinations were made during 1865:

January 24, - - - - -	1*rev.* = 31″.314.	Doolittle, Observer.
January 30, - - - - -	1*rev.* = 31″.308.	Harkness, Observer.
June 6, - - - - - - -	1*rev.* = 31″.341.	Newcomb, Observer.
June 21, - - - - - -	1*rev.* = 31″.336.	Harkness, Observer.

The difference of the results of January and June is due to the change of focus on May 25. The adopted value of the revolution was:

Before May, - - - - -	31″.310.
After May, - - - - -	31″.341.

No change was made in consequence of the slight change of focus on November 7.

INSTRUMENTAL ADJUSTMENTS.

The following are the changes made in the instrumental adjustments during the year 1865:

January 18. Adjusted collimation. The wire was 2*s* east of the image.

January 28. Again adjusted collimation.

February 17. Adjusted heads of microscope micrometers so that they should read more nearly alike.

* Washington Observations for 1864, p. XXII.

April 22. The horizontality of the declination wires destroyed by accidentally hitting the eye-piece. Not accompanied by any change of Nadir reading.

April 26. The wires adjusted for horizontality.

May 25. The distance of the wires from the object glass diminished to bring them into the focus.

June 8. Before transit of Sun of June 9th, microscopes A, B, and F were adjusted to read like the others.

November 7. The focus was slightly lengthened.

In the previous volume it is shown that the changes in the length of the telescope tube produced by changes of temperature appeared to require different focal adjustments for summer and winter.

ERRORS OF DIVISION—REDUCTION FROM THE MEAN OF TWO MICROSCOPES TO THE MEAN OF ALL.

Toward the end of 1865, the observation of a large catalogue of stars with only two microscopes was in contemplation. It was necessary to determine the reduction, due to errors of division, from the mean of any pair of opposite microscopes to the mean of the equidistant six microscopes, including that pair. The latter mean is necessarily supposed correct, since no means for determining the absolute errors of division have yet been available. This was done by reading the six microscopes for every 2° of the circle, from 0° to 360°. Since each pair of 2° divisions would thus be brought six times under some pair of microscopes, we should thus have six independent determinations of each required quantity. Afterward a similar series of readings was made on the degrees 3, 13, &c., around the circle. The results are given in the following table. The first two columns give the arguments, which are the numbers at the ends of the several diameters of the circle. The third gives the correction to be applied to the mean readings of the pair of microscopes at the ends of that diameter to reduce it to the mean of the corresponding six microscopes, plus or minus a constant depending on the adjustment of the microscopes. This correction is that deduced directly from the circle readings. Finally, the fourth column gives the interpolated correction, supposed to be applicable to the neighboring divisions in general.

TABLE C.

°	°	°	°	°	°	°	°	°	°	°	°
0	180	− 0.36	− 0.05	25	205	. .	+ 0.18	50	230	+ 0.89	+ 0.86
1	181	. .	− 0.02	26	206	− 0.20	0.20	51	231	. .	0.80
2	182	+ 0.34	+ 0.02	27	207	. .	0.28	52	232	0.74	0.70
3	183	0.18	0.01	28	208	+ 0.71	0.40	53	233	0.69	0.68
4	184	− 0.36	0.00	29	209	. .	0.47	54	234	0.41	0.70
5	185	. .	0.00	30	210	0.63	0.48	55	235	. .	0.80
6	186	+ 0.07	0.00	31	211	. .	0.46	56	236	1.07	0.93
7	187	. .	0.04	32	212	0.06	0.43	57	237	. .	1.08
8	188	0.11	0.08	33	213	0.55	0.46	58	238	1.33	1.20
9	189	. .	0.13	34	214	0.57	0.52	59	239	. .	1.20
10	190	0.01	0.16	35	215	. .	0.60	60	240	1.42	1.16
11	191	. .	0.12	36	216	0.58	0.70	61	241	. .	0.98
12	192	0.64	+ 0.05	37	217	. .	0.79	62	242	0.48	0.80
13	193	+ 0.07	− 0.05	38	218	1.05	0.86	63	243	0.67	0.71
14	194	− 0.87	0.16	39	219	. .	0.90	64	244	0.57	0.74
15	195	. .	0.23	40	220	0.80	0.86	65	245	. .	0.86
16	196	− 0.22	0.28	41	221	. .	0.80	66	246	1.16	1.06
17	197	. .	− 0.12	42	222	0.89	0.73	67	247	. .	1.20
18	198	+ 0.17	+ 0.10	43	223	0.72	0.68	68	248	1.36	1.30
19	199	. .	0.22	44	224	0.39	0.64	69	249	. .	1.25
20	200	0.41	0.32	45	225	. .	0.63	70	250	1.35	1.20
21	201	. .	0.32	46	226	+ 0.55	0.64	71	251	. .	1.10
22	202	0.46	0.30	47	227	. .	0.70	72	252	0.72	0.92
23	203	0.20	0.24	48	228	− 0.96	0.83	73	253	0.63	0.88
24	204	+ 0.14	+ 0.16	49	229	. .	+ 0.90	74	254	+ 1.16	+ 0.90

°	°	°	°	°	°	°	°	c	°	°	°
75	255	. .	+ 0.95	110	290	— 0.76	— 0.66	145	325	. .	— 0.80
76	256	+ 0.87	1.00	111	291	. .	0.63	146	326	— 0.70	0.78
77	257	. .	1.02	112	292	0.64	0.60	147	327	. .	0.76
78	258	1.17	1.00	113	293	0.55	0.60	148	328	0.89	0.72
79	259	. .	0.95	114	294	0.28	0.60	149	329	. .	0.67
80	260	0.71	0.76	115	295	. .	0.68	150	330	0.55	0.60
81	261	. .	0.68	116	296	0.83	0.86	151	331	. .	0.56
82	262	0.42	0.60	117	297	. .	1.07	152	332	0.29	0.52
83	263	0.61	0.63	118	298	1.34	1.07	153	333	0.30	0.52
84	264	0.71	0.68	119	299	. .	1.06	154	334	0.74	0.60
85	265	. .	0.66	120	300	1.02	1.00	155	335	. .	0.70
86	266	0.92	0.60	121	301	. .	0.90	156	336	1.12	0.80
87	267	. .	0.50	122	302	0.81	0.78	157	337	. .	0.80
88	268	+ 0.19	0.34	123	303	0.73	0.70	158	338	0.72	0.72
89	269	. .	0.20	124	304	0.18	0.70	159	339	. .	0.60
90	270	— 0.05	0.10	125	305	. .	0.80	160	340	0.30	0.44
91	271	. .	0.06	126	306	1.20	0.95	161	341	. .	0.34
92	272	+ 0.25	0.04	127	307	. .	1.18	162	342	0.31	0.28
93	273	— 0.22	0.06	128	308	1.22	1.24	163	343	0.79	0.28
94	274	+ 0.19	0.14	129	309	. .	1.28	164	344	0.22	0.28
95	275	. .	0.16	130	310	1.34	1.25	165	345	. .	0.28
96	276	+ 0.49	0.16	131	311	. .	1.12	166	346	0.34	0.28
97	277	. .	+ 0.06	132	312	1.38	0.96	167	347	. .	0.28
98	278	— 0.32	— 0.16	133	313	0.69	0.82	168	348	0.29	0.26
99	279	. .	0.30	134	314	0.26	0.72	169	349	. .	0.22
100	280	0.47	0.40	135	315	. .	0.74	170	350	0.14	0.18
101	281	. .	0.36	136	316	0.72	0.80	171	351	. .	0.16
102	282	— 0.56	0.30	137	317	. .	0.95	172	352	0.09	0.14
103	283	+ 0.09	0.27	138	318	1.32	1.10	173	353	0.13	0.13
104	284	— 0.16	0.29	139	319	. .	1.14	174	354	0.12	0.12
105	285	. .	0.33	140	320	1.10	1.10	175	355	. .	0.11
106	286	0.19	0.40	141	321	. .	0.98	176	356	— 0.23	0.10
107	287	. .	0.50	142	322	0.87	0.88	177	357	. .	0.09
108	288	— 0.74	0.60	143	323	0.79	0.85	178	358	+ 0.17	0.07
109	289	. .	— 0.66	144	324	— 0.84	— 0.81	179	359	. .	— 0.06

From the general magnitude of these numbers may be deduced the probable magnitude of the errors of division. Let ϵ be the mean error of division for a single pair of microscopes. Then the error of the mean of the other two pairs will be $\frac{\epsilon}{\sqrt{2}}$; the mean difference of results between one pair and the other two pairs will be $\epsilon\sqrt{1+\frac{1}{2}}=\epsilon\sqrt{\frac{3}{2}}$, and the mean reduction from the mean of one pair to that of the corresponding three pairs will be two-thirds of this, or $\epsilon\sqrt{\frac{2}{3}}$. From the above table we find the mean value of this reduction, without regard to algebraic signs, to be 0″.59. Wherefore, $\epsilon=0''.72$, and the mean error of the mean of all six microscopes is $\frac{\epsilon}{\sqrt{3}}=0''.42$; a quantity very much larger than has hitherto been supposed.

THE NADIR POINT.

For determination of the Nadir point a cap is provided which fits loosely over any of the eye-pieces of the telescope. Just above the eye-lens the cap has a plate of thin glass inclined at an angle of 45°. This arrangement has the decided advantage of enabling the observer to collimate without removing the eye-piece used in observation, and thereby both avoids risk of injury to the threads and prevents the otherwise frequent admission of dust by air currents, &c.

The mode of observation is as follows: The circle telescope is so pointed that when the Nadir divisions of the former are accurately under the zeros of the microscopes the images of the horizontal threads in the field of the latter may be seen at a small distance from the threads themselves. The circle microscopes are read then, or at the conclusion of the reflection measures. The micrometer reading for the true Nadir, being that which corresponds to the coincidence of each thread seen directly with the image of the other seen by reflection, may be

obtained in three modes: 1. Three equal spaces may be formed as described when treating of the inequality of the micrometer-screws. 2. Each thread may be made to bisect the space between the other thread and its image. 3. The images may alternately be made to bisect the interval between the threads, to effect which the threads are moved over half their interval, or 0*r*.14 between every two successive readings. The observers generally gave preference to the last method, but occasionally used each of the others. As the Nadir point thus determined always depends upon the same set of divisions of the circle, and is made with the same part of the micrometer-screw, it will uniformly be affected with the errors of those divisions and by any inaccuracy peculiar to that portion of the screw.

METHOD OF OBSERVING.

The method of observing was the same as in preceding years, and consisted essentially in transferring the subdivision of the circle from the microscopes to the micrometer eye-piece. The circle having been previously set so that the divisions nearest to the reading for the given declination were as accurately as practicable under the zero of the microscopes, the object was repeatedly placed equidistant between the parallel threads whilst it was passing across the field, and the reading of the micrometer head noted each time. The circle microscopes were read either before or after the observation, and sometimes both before and after. By this method the correction for runs of the microscope-screws, as well as for their possible periodic errors, is rendered generally inappreciable, the changes of their mean reading during a night's work usually being less than 5″.

In ordinary observations of stars, five micrometer measures between the parallel threads were made as nearly as practicable at vertical threads III–VII, or at vertical threads I, III, V, VII, and IX. For circumpolar stars only threads 1–5 were used. In observations of the Sun, the circle was first set for one of the limbs and read beforehand, and while that limb approached the centre of the field, four micrometer readings were obtained at vertical threads I–IV. The junior observer, (D.,) however, usually took but two readings for each limb. The circle was then quickly moved to the even reading for the other limb, another set of four measures taken at vertical threads VI–IX, and the microscopes were read afterwards. The order of limbs observed (N.S. or S.N.) was generally reversed on successive days. When both limbs of planets were observed the measurements were usually made at alternate transit threads, thereby securing symmetry for each with reference to the meridian.

When direct and reflection observations of stars were made at the same transit, the observations were usually made in the same way as those of the Sun.

The clock time of transit over the middle thread is entered in the observing-books, but has not been copied for the printed pages.

EXPLANATION OF THE PRINTED OBSERVATIONS.

Columns 1 to 3, and 7 to 12, need no explanation beyond that given in former years.

The magnitudes in column 4 are those estimated by the observer at the time of observation.

Columns 5 and 6 show the number of micrometer readings and the transit wires at which these readings were made. When the number of micrometer readings does not correspond to the number of wires included between the limit given in column 6, it is understood that the observations were made at equal intervals between those limits.

Column 13 contains the mean of the six microscope readings. When any microscope reading is omitted, the reduction from the mean of the pair to which it belongs to the mean of all six is found from a number of observations preceding and following. One-half this reduction is subtracted from the mean of the other four microscopes to obtain the concluded mean of all six given in this column. When only a single pair are read, the correction already given for relative average division is included in this column.

Column 14 contains the mean of the observed micrometer readings.

Column 15 contains the adopted "Nadir correction" expressed in micrometer revolutions. It is formed by subtracting the excess of micrometer reading above 30 revolutions from the excess of the mean circle reading above 270°, that excess being first expressed in micrometer revolutions.

The adopted correction is generally the mean of the observed corrections through any space of time in which the extreme difference does not exceed half a second.

Column 16 gives the corrected meridian micrometer reading, formed by applying the following corrections to column 14 :

1. The Nadir correction.

2. The reduction to the meridian. For observations made on any of the vertical wires the reduction is given by the formula :

$$\Delta m = -\frac{\sin^2 h}{2r \sin 1''} \tan \delta;$$

h being the equatorial interval in arc of the vertical wire, and r the value of one revolution of the micrometer. Expressing h in seconds of time, and putting for r its value already given, this expression becomes

$$\Delta m = -[5.2405]\, h^2 \tan \delta,$$

the value of which, for different wires, is tabulated on pp. xxxii–xxxiii of the Washington Observations for 1863.

Stars near the pole are sometimes observed without reference to the vertical wires, the clock times of observation being recorded instead. In such cases the reduction to the meridian is computed by the formula :

$$\Delta m = -\frac{225 \sin 1''}{4r}(t-a)^2 \sin 2\delta;$$

t being the true sidereal time of observation and a the right ascension of the star.

3. The correction of unsymmetrical observations of the Sun, Moon, and Planets, on account of motion in declination. In the case of the Moon the correction was computed by the formula :

$$\Delta m = [4.943]\, hs \sec \delta\, \Delta \delta;$$

hs being the equatorial interval in seconds of time of the vertical wire at which the observation is made, and $\Delta \delta$ the change of declination in seconds of arc for one hour of terrestrial longitude.

In the case of the Sun both the motion in declination and the reduction to the meridian may be expressed as a function of the meridional zenith distance. A table has therefore been constructed, giving the combined value of these corrections when the Sun is observed over the four outside wires, as a function of the meridional zenith distance of its centre. It also gives the parallax in altitude.

4. The correction of unsymmetrical observations for inclination of the micrometer threads to the horizon. The values of this correction for the first four wires, of which the mean equatorial interval is 34s.5, were as follows :

	r.
January 1 to April 22 - - - - -	$i = +0.019$
April 24 to 26 - - - - - - - -	$i = -0.074$
April 26 to September 28 - - -	$i = +0.003$
September 29 to December 31 - -	$i = 0.000$

Columns 18, 19, and 20, contain the readings of the Newman barometer, its attached thermometer, and the external thermometer. By comparison with the standard barometer, the necessary correction of these readings is found to be only — 0.001 inch, involving a correction

of the log. refraction of — .00001. The readings of the attached thermometer are assumed to be correct. The external thermometer is a standard by Troughton & Simms, and is the one designated No. 3 in the Appendix to Washington Observations for 1845, page 54. It is placed outside of the north aperture, and is held between two horizontal supports, which carry it several inches beyond the wall. The scale is read by help of a small sextant telescope attached to the window frame.

Column 21, entitled "correction for micrometer," contains the micrometer equivalent, or the difference between the corrected micrometer reading and 30 rev. converted into arc. If the former quantity is denoted by m, the values in this column will be given by the formula:

$$\text{Corr.} = (30 \text{ rev.} - m)r.$$

This correction being applied to the circle reading diminished by 90°, we have the apparent zenith distance for the computation of refraction. This quantity is not printed.

Column 22 contains, as "correction for object," the sum of the following quantities:

1. The correction for refraction corresponding to the observed zenith distance and barometer and thermometer readings. This quantity is computed from Bessel's tables, as given in an expanded form in the Appendix to the Washington Observations for 1845.

The following corrections are applied to the thermometer readings for irregularities in the bore of the tube:

CORRECTIONS OF THERMOMETER.

Ther. scale.	Corr.	Δ log. ref.	Ther. scale.	Corr.	Δ log. ref.
°	°		°	°	
30	— 0.04	+ .00004	66	+ 0.20	+ .00016
32	.06	5	68	.25	21
34	.11	10	70	.22	18
36	.08	7	72	.12	10
38	.05	4	74	+ .03	— 3
40	.02	2	76	— .01	+ 1
42	.01	1	78	.04	3
44	.00	0	80	.04	3
46	.01	1	82	.01	1
48	.03	3	84	.00	0
50	.04	3	86	.06	5
52	.03	3	88	.12	10
54	.01	1	90	.14	11
56	.01	1	92	.14	11
58	— .03	+ 3	94	.14	11
60	.00	0	96	.13	11
62	+ .05	— 4	98	.12	10
64	+ 0.12	— .00010	100	— 0.12	+ .00010

2. The correction for parallax for observations of the Sun, Moon and Planets, computed for the first and last, by the formula:

$$p = \pi . \sin (z' - 11'.2);$$

and for the Moon:

$$\sin p' = \sin \pi . \sin (z' - 11' \, 14''.54) . [9.9994302,]$$

$$\text{or } p' = \pi . \sin (z' - 11' \, 14''.54) . [9.9994302] . \frac{\text{sine } \pi}{\text{arc } \pi} \frac{\text{arc } p'}{\text{sine } p'}.$$

$$\text{and } p = p' \mp \tfrac{1}{2} (p \mp s) \sin p \sin s,$$

the upper signs corresponding to observations of the upper limb, and *vice versa*. The quantities

$$\frac{\text{sine } \pi}{\text{arc } \pi} \text{ and } \frac{\text{arc } p}{\text{sine } p}$$

are given in tables IX and X, and the correction of p' in the last formula is given in table XI of the Appendix to the Washington Observations for 1845. In these formulas

z' represents the observed zenith distance, corrected for refraction.

π, the equatorial horizontal parallax, as given in the American Ephemeris.

s, the semi-diameter of the object.

p, the required correction for parallax.

3. In cases when only one limb of an object is observed, the correction for semi-diameter is included under this head. This correction is in all cases taken from the American Ephemeris.

4. When the nominal centre of Venus was observed, the point of observation was supposed to be the mean of the two apparent limbs, and a correction was applied to reduce this point to the centre.

In the case of Mercury the observed centre has been supposed that of the centre of gravity of the apparent surface, and the correction to the true centre has been computed by the formula:

$$\text{Correction} = 0.8488 \sin\theta \sin^2 \tfrac{1}{2} i \times \text{semi-diameter.}$$

These corrections are given in the notes on the right of the page.

Column 23 contains the sum of columns 13, 21, and 22, decreased by 90°, and is the observed geocentric zenith distance. When only one limb of a body is observed or used for declination, the zenith distance is that of the centre; otherwise it is that of the apparent limb.

Column 24 contains the declination of the centre of the object, using the assumed latitude 38° 53′ 39″.25. When the preceding column gives the circle reading corresponding to the two limbs of a planet, and one of them is defective, that of the centre is found by applying that of the full limb to the semi-diameter deduced from the observation. This is obtained by dividing the observed diameter by $1 + \cos\theta$, or $1 + \cos\theta'$, θ and θ' being found from well-known formulas, and being defined in the Washington Observations for 1847.

Column 25 contains for the fixed stars the reduction from the apparent declination at date to the mean declination for 1870.0. They were computed by Bessel's formulæ, with constants prepared from the logarithms A, B, C, and D, of the American Ephemeris and Nautical Almanac, and, in addition to the terms included in that work, they include also those depending on twice the Moon's mean longitude. Corrections for proper motion have not been applied to any star.

Column 25 contains the initials of the observers' names:

N. denoting Prof. S. Newcomb.
H. " Prof. Asaph Hall.
Ha. " Prof. W. Harkness.
R. " Mr. Joseph A. Rogers.
D. " Mr. M. H. Doolittle.

THE PRIME VERTICAL TRANSIT INSTRUMENT.

During the year 1865, as in the previous three years, this instrument was mainly employed in observations of α Lyræ.

TRANSIT WIRES.

The diaphragm of the eye-piece contains a single vertical wire near the line of collimation, with seven parallel wires on each side, for the observation of transits. The middle points of these wires are marked by a pair of horizontal wires, which cross them at right angles. There is also a vertical wire moved by a micrometer-screw, of which, however, use is seldom made.

METHOD OF OBSERVING.

The mode of reading the level was changed with the beginning of the year 1865, for reasons set forth in the last introduction. The processes of the observation are now arranged in the following order:

1. The transits of the star over the seven wires which it passes before reaching the prime vertical, are observed by eye and ear, using the beat of the clock of the south wing, commonly known as the "Prime Vertical Clock." The motion of the star relative to the wires being very oblique, the telescope is moved before each transit over a wire, so that the transit shall take place between or near the horizontal wires.
2. The level is read without touching it, or again moving the telescope.
3. The telescope is reversed and again pointed at the star. The latter operation gives the level time to settle again.
4. The level is again read.
5. The transits of the star are observed over the same wires as before, but in reverse order.

Through a misapprehension on the part of Professor Harkness, the first and second, and also the fourth and fifth processes, were interchanged in his earlier observations of the year. A habit of comparing the level reading before and after observation with those made during the observations satisfies me that no serious errors arise from this cause.

EXPLANATION OF THE OBSERVATIONS.

The original record of every part of the observation, except the minutes of transit over wire G, is given in full.

The first column gives the date on which the star crossed the meridian, between the transits over the Prime Vertical.

The three next columns need no explanation.

Columns 5 and 13, headed "Telescope," show whether the telescope was on the north or south side of the pier during the observations following in the same line.

In the columns "Times of transit" the recorded times of transit for each vertical are given from left to right in the order in which they occurred.

Under "level readings" columns N. give the readings of the north end of the bubble; columns S. those of the south end.

The next column gives the mean error of level in each vertical, from the observations in both positions of the instrument.

The correction for level, given in the next column, is obtained by the formula

$$\delta \text{ Dec.} = 0''.984\ \delta b.$$

δb being the mean error of level, one division of which is assumed equal to a second of arc.

The apparent declination is obtained as follows :

Representing by φ the latitude of the instrument, by t and t_1 the observed times of the star's transit over a given thread in the east vertical before and after reversal of the instrument, and by t' and t'_1 the corresponding times at the west vertical, and making

$$s = \tfrac{1}{2}[(t'_1 - t) + (t' - t_1)];$$
$$u = \tfrac{1}{2}[(t'_1 - t) - (t' - t_1)];$$

we have

$$\tan \delta_0 = \tan \varphi \cos s \cos u.$$

The values of cos s and cos u are computed separately for each thread, and the mean result multiplied by the constant tan φ. The Prime Vertical Transit Instrument being forty-five feet south of the centre of the Mural Circle pier, its latitude has been assumed to be

$$38^\circ\ 53'\ 38''.80.$$

Then,

$$\text{Apparent declination} = \delta_0 + \text{correction for level.}$$

The correction for azimuth has been insensible during the year.

The reduction to 1860.0 has been computed by the formulæ of Bessel and Struve, using the proper motion found by Peters :

$$+0''.2792.$$

Column "Weight" shows the excellence of the observations estimated by the observer at the time of making, on a scale of 1–5. 3 indicates an average observation. 2 and 4 indicate respectively an indifferent one and a good one ; 1 and 5 a very poor one and a very good one.

The observers were :

N., Professor S. Newcomb.
H., " Asaph Hall.
Ha., " Wm. Harkness.

THE EQUATORIAL.

This instrument has been employed, as in former years, in determining the places of asteroids and comets, and in the observation of eclipses and occultations of stars by the moon.

The work heretofore commenced on the Pleiades and Præsepe has also been continued, augmenting considerably the number of well-determined stars in both of these important groups. Of asteroids there have been observed during the present year the following:

Euterpe,	Hebe,	Melete,	Euphrosyne,
Leda,	Eurynome,	Asia,	Diana,
Doris,	Ausonia,	Hestia,	Io,
Angelina,	Egeria,	Circe,	Irene,
Vesta,	Pomona,	Urania,	Mnemosyne,
Pales,	Themis,	Danæ,	Phocæa, and
Flora,	Feronia,	Astræa,	Psyche.

Of comets there have been observed that of Faye and IV, 1864, (Bœker's.) The comet of Biela was looked for without success, according to Michau's Ephemeris, from the middle of September to the end of the year.

Thirty-five new stars have been determined in the group of the Pleiades and thirty in Præsepe.

There have also been observed 10 occultations of stars by the Moon.

The measurement of double stars has been discontinued during the present year.

The arrangement of the micrometer is the same as in previous years; there being five transit wires and five declination wires. There is also on the plate containing the transit wires a single wire at right angles to the others, serving to indicate approximately the middle of the field, and to serve as a standard for determining the parallelism of the declination wires. The transit wires are designated by the letters a, A, B, C, c; a being the wire over which a star first passes when the telescope is pointed south and the head of the micrometer-screw turned downward.

The declination wires are numbered from one to five, beginning with the wire nearest to the head of the micrometer-screw.

From the beginning of the year until September 23, the intervals were as follows:

Equatorial intervals of the transit wires.	*The intervals of the declination wires.*
s.	*r.*
B − a = 12.19	2 − 1 = 17.131
B − A = 8.40	3 − 1 = 29.916
C − B = 8.31	4 − 1 = 42.993
c − B = 12.36	5 − 1 = 60.001

Subsequent to September 23, the intervals were as follows:

Equatorial intervals of the transit wires.	*The intervals of the declination wires.*
s.	*r.*
B − a = 12.16	2 − 1 = 17.153
B − A = 8.21	3 − 1 = 29.919
C − B = 8.06	4 − 1 = 42.950
c − B = 12.16	5 − 1 = 59.966

The adopted value of the revolution of the micrometer-screw is 15″.337.

The mode of reducing and printing the observations and results is the same as in the previous year.

DETERMINATION OF THE VALUES OF THE RADII OF THE SMALL RING OF THE RING MICROMETER.

In this determination the method given by Professor C. H. F. Peters, (Brunnow's Notices, No. 13,) was employed. The stars used were Weisse XX, 555 and 563. Observations were made on September 21 and September 23, by Professor Hall, and the following results obtained:

1865.	″	″	1865.	″	″
Sept. 21	r_1=249.8	r_2=301.3	Sept. 23	r_1=250.3	r_2=304.2
	248.6	301.2		251.1	303.2
	249.5	298.7		248.9	302.4
	247.0	301.2		248.0	302.4
	249.6	299.9		248.0	302.4
	250.0	301.3		249.5	305.2
	248.4	303.0		249.5	. .
	249.0±0″.27	300.9±0″.34		249.3±0″.29	303.3±0″.32

As the observations were made very near the meridian the correction for refraction has been neglected. The values adopted are $r_1 = 249''.2$, and $r_2 = 302''.1$.

MEAN DECLINATIONS FOR 1870.0 OF STARS OBSERVED WITH THE MURAL CIRCLE.

This section gives the results of the separate observations of each star with the Mural Circle. The approximate right ascensions are generally those deduced from the observed time of transit over the middle wire, and are subject to a probable error of perhaps 2*s*. But the right ascensions of well-known stars are frequently those of catalogues.

The declinations are those given in the section "Observations with the Mural Circle," applying the reductions to 1870.0 in column 24, without further correction. Results of direct and reflection observations of stars are, it will be seen, classified separately, in order that they may be more easily compared.

COMPARISON OF OBSERVATIONS DIRECT AND BY REFLECTION, WITH CORRECTION FOR THE DISCORDANCE.

The following table gives, for each star observed in both ways, during 1865, the zenith distance, the seconds of declination which result from the direct and reflection observations respectively, and the excess of direct over reflection results.

COMPARISON OF DIRECT AND REFLECTION DECLINATIONS OF STARS, DEDUCED FROM OBSERVATIONS WITH THE MURAL CIRCLE.

SECONDS OF DECLINATION.						SECONDS OF DECLINATION.					
Name.	Z.D. N.	D.	R.	D—R.	Weight.	Name.	Z.D. S.	D.	R.	D—R.	Weight.
	°	″	″	″			°	″	″	″	
4 Draconis, S.P.	63	— 19.6	— 20.3	+ 0.7	1	β Lyræ	6	+ 48.6	+ 49.9	— 1.3	1
Polaris, S.P.	53	— 58.0	— 57.3	— 0.7	4	β Tauri	10	43.6	43.2	+ 0.4	1
Polaris	50	+ 58.0	+ 58.2	— 0.2	2	α Andromedæ	11	23.9	22.8	+ 1.1	3
4 Draconis	39	20.3	19.5	+ 0.8	1	β Geminorum	11	16.1	16.7	— 0.6	1
γ Cephei	38	24.2	24.8	— 0.6	2	μ Herculis	11	58.9	57.8	+ 1.1	2
5 Ursæ Minoris	37	25.0	26.8	— 1.8	2	μ Leonis	12	6.0	4.5	1.5	2
50 Draconis	36	45.9	45.7	+ 0.2	1	ε Leonis	15	18.7	16.8	1.9	1
B.A.C. 8314	35	13.0	14.2	— 1.2	1	μ Geminorum	16	41.5	40.2	1.3	2
11 Cephei	32	47.1:	46.9	+ 0.2	0	γ Leonis	18	55.5	54.2	1.3	2
κ Draconis	32	18.8	18.3	0.5	2	α Bootis	19	48.2	46.9	1.3	3
λ Draconis	31	54.8	54.2	0.6	2	η Bootis	20	4.4	3.2	1.2	2
2 Draconis	31	47.2	46.2	1.0	1	γ Geminorum	22	28.6	28.2	0.4	1
ω Draconis	30	3.5	2.6	0.9	1	α Tauri	23	46.2	45.4	0.8	1
δ Draconis	29	59.1	59.0	0.1	2	α Delphini	23	19.4	18.1	1.3	1
ο Cephei	29	3.6	1.3	2.3	1	β Leonis	24	56.6	55.9	0.7	3
ι Cephei	27	3.4	0.7	2.7	1	α Herculis	24	26.6	26.5	0.1	2
α Draconis	25	53.2	52.5	0.7	2	α Ophiuchi	26	26.3	25.1	1.2	2
α Ursa Majoris	24	9.8	9.5	0.3	3	α Leonis	26	6.1	5.2	0.9	3
α Cephei	23	8.7	8.1	0.6	2	ι Leonis	28	58.4	57.0	1.4	1
θ Bootis	14	13.5	10.5	3.0	1	κ Cancri	28	23.9	22.6	1.3	1
β Draconis	13	55.1	54.8	0.3	1	γ Aquilæ	29	55.6	52.8	2.8	2
θ Ursæ Majoris	13	6.9	5.1	1.8	1	ζ Pegasi	29	13.2	12.3	0.9	1
ι Ursæ Majoris	9	2.1	0.8	+ 1.3	1	ρ Leonis	29	31.1	30.0	+ 1.1	1
δ Persei	8	9.9	10.2	— 0.3	1	κ Ophiuchi	29	45.3	45.4	— 0.1	1
α Aurigæ	7	48.6	46.2	+ 2.4	1	ο Virginis	29	19.4	17.9	+ 1.5	2
α Cygni	6	+ 59.9	+ 59.5	+ 0.4	1	ε Pegasi	30	51.0	50.5	0.5	2
						α Aquilæ	30	36.9	36.6	+ 0.3	1
						ε Piscium	33	38.3	38.6	— 0.3	1
						θ Piscium	33	55.8	55.6	+ 0.2	2
						ι Piscium	34	22.3	22.0	0.3	1
						ζ Virginis	39	10.8	10.1	0.7	1
						η Virginis	39	+ 21.7	+ 21.2	+ 0.5	2
						η Aquarii	40	— 11.2	— 11.1:	— 0.1	0
						κ Aquilæ	46	49.0	49.9	+ 0.9	1
						1 Aquilæ	47	55.4	55.8	0.4	1
						θ Aquarii	47	44.1	46.0	1.9	1
						a^2 Capricorni	52	— 43.2	— 45.5	+ 2.3	1

Taking the mean result for every 5°, and inserting for comparison the results for the year 1864, we have

Z. D. N.	D—R.		Weight.		Z. D. S.	D—R.		Weight.	
	1864.	1865.	1864.	1865.		1864.	1865.	1864.	1865.
° °	″	″			° °	″	″		
63—66	+ 1.2	+ 0.7	2	1	5— 9	0.0	— 1.3	4	1
55—59	+ 0.8		5		10—14	— 0.1	+ 0.9	5	9
50—54	— 0.2	— 0.5	7	6	15—29	+ 1.1	1.4	10	8
45—49	+ 0.1		5		20—24	1.0	0.7	14	10
40—44	+ 1.0		5		25—29	0.8	1.3	5′	14
35—39	— 0.1	— 0.7	4	7	30—34	1.2	0.2	10	7
30—34	+ 0.5	+ 0.7	7	6	35—39	0.7	0.6	1	3
25—29	0.6	1.1	3	6	40—44				
20—24	0.4	0.4	13	5	45—49	1.6	1.1	5	3
15—29	+ 0.1		8		50—54	+ 0.2	+ 2.3	2	1
10—14	— 0.4	1.7	2	3					
5— 9	+ 1.4	+ 1.0	8	4					

The general agreement of the results for the two years, though far from remarkable, seems to indicate that the law continued the same. Taking the mean of north and south results respectively, rejecting stars within 9° of the zenith, we have

Year.	D—R. N.	D—R. S.	Mean.
	″	″	″
1864	+ 0.35	+ 0.95	+ 0.65
1865	+ 0.31	+ 0.97	+ 0.64

The mean results for both years of every 5° are :

Z. D. N.	D—R.	Weight.	Z. D. S.	D—R.	Weight.
°	″		°	″	
65	+ 1.0	3	7	— 0.3	5
57	+ 0.8	5	12	+ 0.6	14
52	— 0.3	13	17	1.2	18
47	+ 0.1	5	22	0.9	24
42	+ 1.0	5	27	1.2	19
37	— 0.5	11	32	0.8	17
32	+ 0.6	13	37	0.6	4
27	0.9	9	42		
22	0.4	18	47	1.4	8
17	0.1	8	52	— 0.9	3
12	0.9	5			
7	+ 1.3	12			

In the absence of any certain knowledge of the causes of the above differences, except possible small errors of division, we shall suppose them to be of the form

$$0''.64 + 0''.50 \sin \text{Z. D. South} + e_o.$$

e_o being an irregular function, but with a period of 60°. The values of e_o from North and South observations, respectively, are

Z. D. N.	e_o.	Z. D. S.	e_o.	Mean by weight.
°	″	°	″	″
57	+ 0.6	2		+ 0.6
52	— 0.5	7	— 1.0	— 0.6
47	— 0.2	12	— 0.1	— 0.1
42	+ 0.7	17	+ 0.4	+ 0.4
37	— 0.8	22	0.1	— 0.2
32	+ 0.2	27	+ 0.3	+ 0.3
27	+ 0.5	32	— 0.1	+ 0.1
22	0.0	37	— 0.3	— 0.1
17	— 0.4	42		— 0.4
12	+ 0.4	47	+ 0.4	+ 0.4
7	0.7	52	— 0.1	0.5
65	+ 0.8			+ 0.8

The valves of e_o have been interpolated, and are given in the following table, of which the argument is the declination. It also gives the value of D—R formed by applying e_o to the function 0″.64 + 0″.50 sin Z. D., and the concluded correction to direct observations.

		e_o.	D—R.	Correct'n to D.		e_o.	D—R.	Correct'n to D.
	°	″	″	″	°	″	″	″
S. P.	+ 56	0.0	+ 0.1	+ 0.1	+ 40	+ 0.6	+ 1.2	— 0.6
	58	— 0.1	+ 0.1	0.0	38	0.6	1.2	0.6
	60	0.3	— 0.2	— 0.1	36	+ 0.3	1.0	0.5
	62	0.4	0.2	- 0.1	34	— 0.1	0.6	0.3
	64	0.4	— 0.2	— 0.1	32	0.5	0.2	0.1
	66	— 0.1	+ 0.1	0.0	30	0.5	0.2	0.1
	68	+ 0.2	0.4	+ 0.2	28	0.3	0.4	0.2
	70	0.4	0.6	0.3	26	0.1	0.7	0.3
	72	0.5	0.7	0.4	24	+ 0.3	1.1	0.5
	74	0.6	0.8	0.4	22	+ 0.3	1.1	0.5
	76	0.7	0.9	0.5	20	0.0	0.8	0.4
	78	0.7	0.9	0.5	18	— 0.2	0.6	0.3
	80	0.6	0.8	0.4	16	— 0.2	0.6	0.3
	82	0.6	0.8	0.4	14	+ 0.1	1.0	0.5
	84	+ 0.3	0.5	0.3	12	0.3	1.2	0.6
	86	— 0.1	+ 0.1	+ 0.1	10	0.2	1.0	0.6
	88	0.5	— 0.3	— 0.2	8	0.2	1.1	0.5
	90	0.5	0.3	0.2	6	+ 0.1	1.0	0.5
U. C.	88	0.3	0.0	0.0	4	0.0	0.9	0.5
	86	— 0.1	+ 0.2	0.1	+ 2	— 0.1	0.8	0.4
	84	+ 0.3	0.6	0.3	0	0.3	0.6	0.3
	82	+ 0.3	0.6	0.3	— 2	0.4	0.6	0.3
	80	0.0	0.3	0.2	4	0.4	0.6	0.3
	78	— 0.2	0.2	0.1	6	— 0.1	0.9	0.4
	76	— 0.2	0.2	0.1	8	+ 0.2	1.2	0.6
	74	+ 0.1	0.4	0.2	10	0.4	1.4	0.7
	72	0.3	0.6	0.3	12	0.5	1.5	0.8
	70	0.2	0.6	0.3	14	0.6	1.6	0.8
	68	0.2	0.6	0.3	16	0.7	1.8	0.9
	66	+ 0.1	0.5	0.3	18	0.7	1.8	0.9
	64	0.0	0.4	0.2	20	0.6	1.7	0.8
	62	— 0.1	0.3	0.2	22	0.6	1.7	0.8
	60	0.3	0.1	0.1	24	+ 0.3	1.4	0.7
	58	0.4	0.1	0.0	26	— 0.1	1.0	0.5
	56	0.4	0.1	0.1	28	0.5	0.6	0.3
	54	— 0.0	0.4	0.2	30	0.5	0.6	0.3
	52	+ 0.2	0.7	0.4	32	0.3	0.8	0.4
	50	0.4	0.9	0.5	34	— 0.1	1.0	0.5
	48	0.5	0.0	0.5	36	+ 0.3	1.4	0.7
	46	0.6	0.1	0.6	38	+ 0.3	1.4	0.7
	44	0.7	1.2	0.6	40	0.0	1.1	0.5
	42	0.7	1.3	0.6	42	— 0.2	0.9	0.4
	+ 40	+ 0.6	+ 1.2	— 0.6	— 44	— 0.2	+ 0.9	— 0.4

OBSERVED RIGHT ASCENSIONS, DECLINATIONS, AND SEMI-DIAMETERS OF THE SUN, MOON, AND PLANETS.

The results of observations of these bodies with the Transit Instrument and the Mural Circle will be found on pages 411 to 427. The mean times of transit of the Sun, Moon, and larger planets, have been taken without change from the American Ephemeris; those of the small planets from the supplements to the Nautical Almanac, or Berlin Jahrbuch.

The columns headed "Limb" indicate the limb observed, blanks implying that either the centre or both limbs have been observed.

When the centre was observed the right ascension has been transcribed without change from the section "Observations with the Meridian Transit Instrument." When only one limb was observed the correction for semi-diameter in the last column of each page of that section has been applied. When both limbs were observed, one being defective, the correction for defective illumination has been computed by the usual methods.*

The observed declinations have been deduced from those of the section "Observations with the Mural Circle," by applying to the latter the following corrections:

1. The correction for discordance of direct and reflection observations, from the table, page xxiii.

2. When only one limb of the Sun was observed, a correction due to personal difference between the mean semi-diameter of the year, deduced from the observations of each separate observer, and that of the American Ephemeris. The several corrections were as follows:

Observer.		Correction to Sun's semi-diameter in American Ephemeris.
N.	$-$ 1.2″	
Ha.	$-$ 0 5	
R.	$+$ 0.8	
D.	$-$ 0.8	

3. In the case of the asteroids, the correction for parallax.

The columns C — O show the errors of the tabular positions of the bodies observed as they result from the observations. The Sun, Moon, and larger planets, are compared with the American Ephemeris; Juno, and Vesta, with the Supplement to the Nautical Almanac for 1868; and the other small planets, with the Supplement to the Berlin Jahrbuch for 1867. A comparison of the observed positions of the Moon with Hansen's tables is also given. This comparison was not made directly, but, to obtain the positions from Hansen's tables, the positions of the American Ephemeris are increased by the difference between the American Ephemeris and the Nautical Almanac at that Greenwich hour nearest the absolute time of Washington transit, a correction of $\pm$ 0″.3 being further applied for difference of tabular semi-diameters. In 1862 it was found that the results thus obtained were substantially identical with those obtained by direct computation.

* Washington Observations for 1863, p. xlii.

CATALOGUE OF STARS OBSERVED IN THE YEAR 1865.

The magnitudes given in this Catalogue are exclusively those which result from the estimates given in the preceding sections.

The right ascensions are deduced from those of the section "Mean Places for 1870.0 of Stars observed with the Transit Instrument," without change.

The declinations are obtained from those in the section "Mean Declinations for 1870.0 of Stars observed with the Mural Circle," applying the correction for discordance of direct and reflection observations (page xxxiii.)

In combining direct and reflection observations, the weights were assumed not proportional to the number of observations, but according to the scale given in the comparison of direct and reflection observations in the volume of Observations for 1864.

CONSTANTS RELATING TO THE INSTRUMENTS IN USE AT THE U. S. NAVAL OBSERVATORY. DETERMINED BY PROF. WM. HARKNESS, U. S. N.

TRANSIT CIRCLE.

Object glass, { Focal length, 12 ft. 1.0 in. / Aperture, 8.52 in.

Power of Eye-pieces.

No. 1.	135	No. 4.	280
No. 2.	158	No. 5.	396
No. 3.	186		

The diameter of the circles at the outside edge is 45.30 inches, and at the graduation 43.40 inches. They are both divided to every two minutes. Assuming distinct vision with the naked eye to be obtained at a distance of ten inches, the power of the reading microscopes is 45.3 diameters.

Collimators to Transit Circle.

Object glasses, { Focal length, 2 ft. 11.2 in. / Aperture, 2.13 in.

Power of eye-pieces, 67.

TRANSIT INSTRUMENT.

Object glass, { Focal length, 7 ft. 0.4 in. / Aperture, 5.33 in.

Power of Eye-pieces.

No. 1.	85	No. 4.	118
No. 2.	86	No. 5.	162
No. 3.	106	No. 6.	162

MURAL CIRCLE.

Object glass, { Focal length, 5 ft. 3.8 in. / Aperture, 4.10 in.

Power of Eye-pieces.

No. 1.	57	No. 4.	218
No. 2.	80	No. 5.	240
No. 3.	133		

The circle is 60.35 inches in diameter at its outer edge where the graduation is placed. It is divided to every five minutes. Assuming distinct vision with the naked eye to be obtained at a distance of ten inches, the power of the reading microscopes is 17.1 diameters.

PRIME VERTICAL TRANSIT.

Object glass, { Focal length, 6 ft. 5.0 in. / Aperture, 4.86 in.

Power of Eye-pieces.

No. 1.	74	No. 3.	140
No. 2.	106	No. 4.	221

EQUATORIAL.

Object glass, { Focal length, 14 ft. 4.5 in. / Aperture, 9 62 in.

Power of Eye-pieces.

No. 1.	90	No. 5.	433
No. 2.	132	No. 6.	562
No. 3.	209	No. 7.	734
No. 4.	296	No. 8.	899

These are all positive eye-pieces for use with the filar micrometer.

Finder to Equatorial.

Object glass, { Focal length, 2 ft. 7.5 in. / Aperture, 2.60 in.

Power of eye-piece, 19.8.

COMET SEEKER.

Object glass, { Focal length, 2 ft. 8.4 in. / Aperture, 3.96 in.

Power of Eye-pieces.

No. 1.	12.6	No. 4.	40.8
No. 2.	19.4	No. 5.	40.6
No. 3.	40.6		

Eye-piece No. 5 carries a ring micrometer.

Seal
OF THE
UNITED STATES NAVAL OBSERVATORY

EXPLANATION

OF THE

SEAL OF THE U. S. NAVAL OBSERVATORY.

The Astronomer Royal, at Greenwich, is directed by his warrant of office "to apply himself with the most exact care and diligence to rectifying the tables of the motions of the Heavens, and the places of the Fixed Stars, in order to find out the so-much-desired longitude at sea, for perfecting the Art of Navigation;" and the original inscription over what was the principal entrance-door of the Observatory, reads "*Carolus Secundus, rex optimus, astronomiæ et nauticæ artis patronus maximus, speculam hanc in utriusque commodum fecit.*"—(Regulations of the Royal Observatory, Greenwich, I. 1.)

The Astronomer Royal, in his Ninth Report to the Board of Visitors of the Royal Observatory, says: "The history of the circumstances which led the Government of the day to supply the funds for the construction of the Observatory, shows that but for the demands of accurate lunar determinations, as aids to navigation, the erection of a National Observatory would never have been thought of." The date of this report is November, 1843. This view is frequently repeated in his subsequent reports. He says in his report, in January, 1847: "Greenwich Observatory was built mainly for observations of the Moon, and of stars regarded as accessories to lunar observations;" and in his report, in June, 1864, he says "it was mainly for observations of the Moon that the Observatory was founded."

Thus it was the demands and the study of navigation "*gubernandi studium*" in the 16th and 17th centuries—making it a matter of great importance to possess the means of accurately determining the longitude at sea—which led to the cultivation of astronomy as a national object.

Dr. Whewell observes that besides the advancement of astronomy, there were other reasons which urged on, with a stronger impulse, the application of the Newtonian theory to the Moon. A perfect lunar theory, he adds, promised to supply a method of finding the longitude of any place; and so the verification of the theory was identified with an object of immediate practical use to navigators and geographers. "A good method for the near discovery of the longitude had been estimated by nations and princes at large sums of money. The Dutch were willing to tempt Galileo to this task by the offer of a chain of gold. Philip the Third, of Spain, had promised a reward for this object still earlier; the Parliament of England, in 1714, proposed a recompense of £20,000 sterling; the Regent Duke of Orleans, two years afterward, offered 100,000 francs for the same purpose. These prizes, added to the love of truth and of fame, kept this object constantly before the eyes of mathematicians during the first half of the last century."—(Inductive Sciences, Book VII, Chap. IV, Sec. 2d.)

Grant, also, in his History of Physical Astronomy, says, "the method of lunar distances which offers such advantages in finding the longitude at sea, rendered an accurate knowledge of the Moon's motion peculiarly desirable." He then enumerates and comments upon the lunar tables of Clairaut, D'Alembert, Euler, Maclaurin, and finally upon those of Mayer, of which he says, "these tables were found to come within the limit of accuracy fixed by the

Board of Longitude of this country; and a recompense of £3000 was in consequence awarded to the widow of Mayer." (Hist. of Phys. Ast., p. 46.)

Here again, it appears that the "*gubernandi studium*" has led not only to astronomical observation, but to the study of celestial mechanics. The observations which have now been continued systematically for more than a century at the Observatory of Greenwich, hold the same fundamental relation to the complete development of the Newtonian theory of gravitation that the observations of Tycho Brahe did to the discoveries of Kepler; and the Greenwich collection, as has been already said, owes its origin and continuance to the demands of a maritime nation for improvements in navigation. This idea, which is succinctly expressed in the motto of the seal, is supposed to be conveyed by the figure of Urania ascending and reaching up with the globe in her outstretched hands, in which attitude she appears to be the suitable and emblematic guide, by whom the way to unite the sky and the ocean is pointed out. [It may be said, in passing, that this Observatory also owes its origin entirely to those wants and uses of the Navy that pertain to navigation.]

The seven stars not only symbolize the starry Heavens, but represent the seven planets of the ancients, and thus unite us with the very earliest periods of Chaldean Astronomy.

The mystical meaning of the number SEVEN, which is supposed to be consecrated in nature, as it certainly is in Scripture, is not forgotten. It is assumed that there are seven principles of the mind; there are seven principal tones. Newton discovered seven primary colors. In the earliest systems of the world, the order of the planets, beginning with the most remote, is Saturn, Jupiter, Mars, the Sun, Venus, Mercury, and the Moon. At a later period, the received systems placed these seven luminaries in the seven spheres. The order in which the names of the planets are assigned to the days of the week, beginning with Saturday, is Saturn, the Moon, Mars, Mercury, Jupiter, Venus; and this period has gone on, without interruption or irregularity, from the earliest recorded times to our own days, traversing the extent of ages and the revolutions of empires.

La Place says of this period, which was in use among the Arabs, the Jews, the Assyrians, and throughout all the East, "*Qu'elle est le plus ancien monument des connaissances astronomiques.*" [Précis de l'Histoire.]

In Scripture, the abstract idea of the number *seven* is completion, fulness, perfection. Arch-Bishop Trench says, "Even the most careless reader of the Apocalypse, must be struck with the manner in which almost everything there is ordered by sevens."—(See Introduction I. 20.*) He explains the special significance, the sacredness, and peculiar dignity of seven, and of what it is the signature. "There is no doubt that it claims, throughout Scripture, to be considered as the covenant number, the sign and signature of God's covenant relation to mankind, and above all to that portion of mankind with which this relation is not potential merely, but actual—namely, the Church." He carries the evidences of this back to the very beginning of things.

It is not worth while to pursue the subject any further, except to show how aptly the motto and its context convey, in concise language, the idea that the study of navigation led up to the stars, and united the sea with the skies. This motto is taken from the Fourth Book of the Astronomica of Manilius, the subject of which is the influences of the Celestial Signs, or Signs of the Zodiac, upon the morals, affections, tastes, and pursuits, of those who are born under them; or elementary Judicial Astrology.

To those born under the sign Pisces, he ascribes a love of the sea, of ships, of nautical arts, of the physical geography of the sea, and of whatever relates to the practice of the pilot. In the course of this exposition, he introduces the following lines:

"Adde gvbernandi stvdivm: pervenit in Astra
Et Pontvm Caelo conivnxit.

* Epistles to the Seven Churches by Arch-Bishop Trench (then Dean of Westminster) 1861.

It does not detract from the suitableness of the motto that it is found in an astrological work, written at a time when astrology was astronomy. The following translation supplies the context:

> Those who are born beneath the Fishes twain,
> Will love the deep, nor dread the dangerous main.
> The ship they build, or shape the mast and oar,
> And fit their tossing home with varied store.
> Hence arts unnumbered, and the myriad throng
> Of parts that to the humblest bark belong.
> Then, too, the pilot's care: *the stars are scaled,*
> *And sky with ocean joined.*

I am indebted to my friend, Professor Geo. M. Lane, of Harvard University, for the motto of the seal.

The seal has been enlarged and engraved for a book label, as in the plate. It is partly inclosed in a wreath of wheaten blades and ears. This addition to the device is taken from the wheat ears in the hands of the Virgin, (*Spica Virginis.*) It derives a further interest from being employed as the type of peace and plenty on the national coin, and from *Spica Virginis* being a nautical star.

APPENDIX I.

DESCRIPTION

OF THE

TRANSIT CIRCLE

OF THE

UNITED STATES NAVAL OBSERVATORY.

PART I.

DESCRIPTION OF THE INSTRUMENT AND ITS ADJUNCTS.

GENERAL DESCRIPTION. (PLATE III.)

(1) The instrument is mounted in the west wing of the Observatory, the room formerly occupied by the Transit Instrument. The interior dimensions of the room are 24.3 feet from east to west, and 18.4 feet from north to south. On the north and south sides of the room are built two recesses, each six feet in length, and six in depth, to make room for the collimators. The slits in the wall and roof for observing are thirty inches in breadth, and closed by four shutters on the roof, and a door on each side.

(2) The piers are solid monoliths of marble. The form of each pier is that of a frustrum of a pyramid, surmounted by a prism. The base at the floor measures 44 inches from north to south, and 38 inches from east to west. The top of the pyramidal portion is 80 inches above the floor, and measures 18.5 inches from north to south, by 24.5 from east to west. The dimensions of the making horizontal sections of the prism are the same, while the height of the prisms is 28 inches, the whole height of the piers 9 feet above the floor. The inside faces of the piers form a vertical continuous plane 19 inches in breadth, and 9 feet in height. On each side of this plane the stone is cut away in the form of a section of a hollow cylinder. The distance of the inside faces is 54 inches. A cylindrical hole 5 inches in diameter is cut from east to west through each prism for the illumination.

Into these openings the inside ends of hollow brass cylinders are firmly set with plaster to the depth of 6 inches. The outside end of each cylinder expands into a disk 8½ inches in diameter and 0.7 of an inch from the face of the pier. The arms which carry the four reading microscopes of each circle are attached to these disks, radiating from the central axis at an angle of 45° from the horizontal and vertical directions. Within each disk, near its centre, is a system of prismatic reflectors for illuminating the divisions of the circle. The illuminating lamps are each at the large end of a conical tube, the small end of which extends through the opening of the pier and fits into the interior of the cylinder carrying the microscope disks. The large end, carrying the lamp, extends three feet from the outer face of the pier. One lamp illuminates the field of the telescope, the other the wires.

The Ys are fastened into semi-cylindrical pieces of brass which extend inward from the head of the disk carrying the microscope arms, the axis of the cylinder being a continuation of that of the openings in the pier, as shown in Plate IV.

(3) The telescope is of 12 feet focal length, and 8.5 inches clear aperture. The eye-piece is furnished with a system of twenty-three fixed vertical wires, (eight of which it is intended to remove,) and two horizontal ones, distant 8″. There is also a horizontal and a vertical micrometer screw, the former carrying one vertical, and the latter four horizontal wires—a central pair, distant 4″.6, and two single ones, 2½′ each side of this pair.

(4) The circles are each 42 inches in diameter, and divided on silver to every 2′. The cylinder on the clamp-end of the axis also has a coarser division to every 10′ for setting. The general character of the arrangement of circles, clamp, counterpoises, &c., may be seen by reference to Plate IV.

Notwithstanding its dimensions, the instrument is reversible, and the operation of reversing can be performed by a single person with great facility. The entire weight of the movable part of the instrument is only about 900 pounds.

(5) The sides of the central tube of the telescope are pierced by openings 2½ inches in diameter, through which the collimators may be set on each other when the instrument is vertical. These are not shown in Plate III.

(6) The instrument is completely spanned from north to south by an arched flight of steps for reflection observations of stars. They are so figured that when the telescope is at any pointing between 120° and 240° of zenith distance, the eye-piece will be in a convenient position to look into. Above the fifth step the arch is bifurcated, so as not to interfere with the line of sight. The highest step is a platform three feet in length, suspended from the roof by iron bars and braces. Hand-rails, not shown in the plate, extend from the bars nearly to the floor.

(7) In the spring of 1867 another mechanical improvement, for convenience and certainty in observing the nadir point, was introduced. On each side of the platform, over the axis of the instrument, a seat is erected. The observer can sit astride of either seat and look into the eye-piece when the telescope points to the nadir. On the inside of each seat, between the observer and the telescope, a board, eight to nine inches wide, rises from the platform nearly to the eye-piece. Each of these boards is furnished with a pair of shutters of the same size, which the observer can turn so that the tube of the telescope shall be completely enclosed in a wooden hexagonal prism, or, more exactly, a frustrum of a pyramid, and thus protected from the heat of the observer's body.

(8) The steps for reading the microscopes need no explanation except that a hand-rail runs along the platform, by which the observer passes from one side of the pier to the other, without descending to the floor.

DETAILED DESCRIPTION, WITH EXPLANATIONS OF THE PLATES.

(9) Plate I is a plan of the observing-room.

Plate II is a section of the walls and masonry below the floor in the plane of the meridian of the instrument, with a view of the room as seen from the west.

E is the entrance from the main building. It is closed by two doors. The floor of the room being thirty inches lower than that of the main building, a platform and flight of steps is erected inside the door for convenience in entering the room.

(10) Below the floor all the masonry is of rough stone set in lime and sand mortar. The base of the masonry rests upon the ground about six feet below the flooring joists.

L L are the collimator piers, the bases being of masonry, three feet square, and the upper parts octagonal monoliths of marble.

S S are piers which support the turn-table, T, and the floor of the room under the instrument.

B, plate II, shows the masonry which supports the circle itself. B is a prism of the masonry already described, eleven feet from east to west, four and a half from north to south, and

five in height. Its horizontal dimensions are therefore only sufficient to support the great piers of the instrument. It is covered by a solid cap Q, Plate II, of hard black stone, of the same horizontal dimensions, and about one foot in thickness.

On this cap rest the marble piers P, P'. Their bases are hollowed out so that they each rest on three points, and thus remain secure without cement or other fastening. Their great mass insures perfect steadiness without such aids. C, C, show how the inside corners of the piers are cut away. The concave faces C, C, C, C, are parts of the surfaces of four vertical cylinders, the axes of which are in the plane of the inside faces of the piers, 23½ inches north and south of the middle, and therefore 47 inches apart.

The perforation through each pier, at the end of the axis of the instrument, is shown at *o*, Plate II.

(11) R, R, R, R, R, R, show the railroad on which the reversing carriage runs. Under the instrument the rails rest upon two strong joists, supported by the piers S S. The turn-table T revolves on six cannon balls. By it the reversing carriage, with the circle on it, may be run into either the northeast or the northwest corner of the room. The turn-table is not necessary in reversing, as the Y's of the reversing carriage themselves revolve on a pivot. The whole floor is on the same level, except around the collimator piers, on three sides of which a platform is built.

(12) Plate IV exhibits an end elevation of the instrument from the south, with the hanging level and so much of the reversing carriage as is not concealed by the telescope. The ladders are omitted.

Plate V is an isometric side elevation from the east; the east pier with its appurtenances, the step-ladders, and the hanging level, all being removed.

(13) *a* is a movable arm, for supporting a lamp in observing the nadir point. *b*, *b* are the counterpoises which lighten the weight of the instrument upon the pivots. The levers *c*, *c* which support them have a slight movement around the pivots *c'*, *c'*. The hooks *f*, *f* have friction rollers at the bottom for supporting most of the weight of the instrument. At the top they expand into a strong rectangular frame, through which the end of the lever *c* passes, as shown at *o*, Plate V. Through the top of the frame passes the screw *d*, the lower end of which being rounded off, rests in a socket in the top of the lever, and thus supports the weight. Small pieces of rubber have been placed in these sockets and under the supporting screws, for reasons to be explained hereafter. When the instrument is raised from its pivots the counterpoises are supported by the screws *e*, *e*, which are adjusted so as to allow a small play to the levers.

(14) *Mounting of the Microscopes.*—Enlarged views of the hollow cylinder D with its attachments are shown in Plate VI. The portion P is set into the pier with plaster; grooves are cut through the flanges *p*, *p*, *p* to, let the plaster run through. *l* is the disk to which the microscope arms are fastened. It expands in thickness toward its circumference. The portions *j* and *k* of the microscope arms hold the disk firmly between them, being held together by means of clamping screws, the heads of which are shown in Fig. 1. These screws pass through *j* to *k*, just outside the edge of the disk. To keep *j* in position when these screws are loosened, it is fitted with pins which fit corresponding holes in *k*. By loosening the screws the microscope arms can be moved independently around the disk, but will not come nearer to each other than about 43°.

Outside of *k*, the microscope arms are loosely encased in mahogany shields I, to protect them against rapid changes of temperature.

The outer ends of the arms are hollow, holes about ¾-inch in diameter running into them, to receive the holders which carry the microscope. They are encircled by the circular clamps *i*, which are tightened by means of the screws *h*, partially shown in Fig. 2, but hidden by the

clamps in Fig. 1. When *h* is tightened, the microscope is firmly held by the arm. By loosening it the microscope may be drawn out, and three views, as thus removed, are given in Plate VII, Figs. 1, 2, 3, each of which is from a position at right angles to the other two.

(15) *a* (Plate VII) is the solid metallic support which passes into and is held by the microscope arm, as already described. The holders *b* and the circular clamps *c*, enveloping the body of the microscope, form a single piece with *a*. When the screws *d* are loosened, the microscope can be moved longitudinally, and the end *e* carrying the object glass can be slid into or out of the other portion, for adjusting the focus, and the angular value of a revolution of the micrometer. For the accurate adjustment, the independent clamp *y* is used. Loosening *d* and tightening *y* by means of the screw *δ*, a fine motion is given the microscope by turning the screw *ε*. The head of this screw is kept pressed against *b* by the spiral spring *ζ* pressing *y* and *b* apart.

(16) *o* is a perforated reflecter for throwing light on the divisions. Its reflecting surface is not polished, but is of a bright white. It can be turned in any direction by the milled head *f*, and can be moved longitudinally by loosening the clamp *g*.

k is a cylinder of white felt, extending very nearly to the face of the circle, at the same time keeping out stray light and assisting the illumination from *o*.

(17) The micrometer screws of the microscopes revolve with the head. Instead of being attached to the moving frame of the diaphragm, they screw into the latter, and thus give it a slow motion to or from the head. Each revolution of the microscope micrometers is 30″ in angular measure on the circle, and about one hundredth of an inch in linear measure on the screw; 30″ on the circle measuring about $\frac{1}{330}$ inch, the image of the divisions is magnified about 3.3 times in the focus of the microscopes. The face of the circle is about 1.9 inches from the object glass and the micrometer wires about 8.3 inches.

Each microscope micrometer is set upon the image of the division by a pair of parallel spider lines, distant from 10″ to 11″. Microscope VII is also supplied with two extra pair of wires, about 2′ on each side of the original pair, for the convenient measurement of consecutive divisions.

The micrometer head is divided into thirty second-spaces, each of which is again subdivided by a shorter line to half seconds. The entire revolutions are read from the interior by a serrated scale. The divided drum may be turned on the axis of the screw by simple pressure, without turning either the screw or its bearing.

(18) *Supports of the Pivots.*—Referring again to Plate VI, the cylinder D is hollow to the depth of about an inch, the external part in fact consisting of a rim about an inch thick. The cylindrical space forming the interior of this rim contains the metallic plate *e*, Fig. 1, into which screw the antagonistic screws *s*, *s*, the heads of which press against the inside of the rim. The top and bottom of this plate are bevelled toward the pivot, and the bevelled edges are held by the plates *b*, *b′*. When the screws *c*, *c* are loosened the plate *e* can be moved from right to left by the screws *s*, *s*, but when they are tightened, *e* is firmly held between the plates *b*, *b′*.

The view actually given is that of the west plate, by which the axis is adjusted in azimuth. The east one is similar, except that the plates and screws are turned 90° for adjusting the level.

n is a thin perforated plate of metal which presses against the end of the pivot, to prevent longitudinal motion of the axis. As now arranged for observation, the eastern one is firmly screwed against the V plate, while the western one is pressed against the pivot by a spring behind it.

The V's are carried in the rounded plate *y*, which forms one piece with the plate *e*. They consist simply of small pieces of soft metal *v v*, (Fig. 4,) slightly convex on their upper surfaces, so that only a single point of each pivot at first rests upon them. But a slight hollow is soon worn into each of them by the pivot.

(19) *The Telescope and its External Appendages.*—Returning to Plates IV and V, and passing from the V's, we first have the pivots, which are 2.1 inches in diameter, and 1.8 inch in length, and are apparently of the same diameter throughout their length.

(20) Next to the pivots the axis expands into the frustrum of a cone, the diameters of the bases of which are somewhere about three and a half and four and a half inches, respectively, and the height about three inches. Back of this frustrum the axis again expands perpendicularly to its length. Over these frustrums the circles C, C fit with great nicety; the central perforations in the latter being tightly filled by the former when the circles are pressed against the expansion at their bases. The thickness of the circle is slightly greater than the depth of the frustum, so that the latter does not pass quite through the perforation. The circle is held in its place by the friction of the plates p, p which are pressed against it by the screws s, s, s, s, s, (Plate V) passing through them and into the top of the frustrum, without touching the circle. When these screws are loosened, the circle can be turned round so as to take any desired position relatively to the telescope.

(21) The circles each appear to be cast in a single piece. The manner in which they are stiffened can be seen by a comparison of Plates IV and V. The middle of the plane face of each circumference is inlaid with a band of silver on which the divisions are cut to every two minutes. The breadth of each division as seen under the microscope seems to be between two and three seconds, corresponding to a thickness of about $\frac{1}{4000}$ of an inch.

The circle next to the clamp has also a coarse division to every ten minutes, for setting the telescope.

(22) Next to the circles come, on one end of the axis, the clamp n, and on the other end a ring to counterbalance it, into which screw four handles h, h for turning the telescope on its axis. The clamp is tightened by means of the screw q, q, (Plate V,) and a slow motion may then be given the telescope by another screw, not shown in the figure.

(23) The friction rollers are received by grooves cut around the axis.

On the clamp end of the axis four curved handles h', h' (Plate IV) are screwed into the cone for turning the telescope.

Near the base of the cone flat bands are seen, by which the instrument is supported when on the reversing carriage.

(24) The central cube is 16 inches square, and forms a single piece with the axis. Its sides are perforated in a direction perpendicular to the telescope and the axis, by openings $2\frac{1}{2}$ inches in diameter, through which light can pass from one collimator to the other. They are closed by covers which screw into them.

The tubes of the telescope are each fastened to the cube by sixteen screws, as shown in Plate IV.

(25) *The Eye-piece.*—Three views of the eye-piece and its appendages are given in Plate VIII. From Figures 2 and 3 it will be seen that there are six series or strata of plates in the eye-piece. The first or outside stratum, of which a face view can be seen in Fig. 1, carries the ocular a and the slide for giving it a horizontal movement by means of the rack work and milled head b.

The second stratum consists of the slide and fixed guides for giving a vertical movement to the whole of the first plate, with its guides and slide, by the milled head c.

(26) The third stratum consists of the declination micrometer plate with its guides A portion of its outside surface is seen at d, d, d, d, Fig. 1. e is a fixed index for reading the approximate position of the plate in micrometer revolutions. f is an opening in the plate to admit of the free passage of e. An opening about two inches square is cut in the middle of

the plate, and across this opening on the posterior surface of the plate are stretched the horizontal spider lines for zenith distance observations with the micrometer. From Fig. 3 it will be seen that the micrometer plate *d* carries the fulcrum of the milled head *c* by which the ocular is moved vertically. Consequently, when the micrometer is moved, the ocular is carried with it, and the movable spider lines are thus kept in the middle of the field without touching *c*.

(27) The fourth plate is moved in right ascension by the micrometer head R. It has a rectangular opening like Plate III, and across this opening, on the anterior surface of the plate, is stretched a single vertical spider line.

(28) The fifth plate carries the fixed spider lines. These are stretched across the anterior surface of a thin annulus about $1\frac{1}{4}$ inch in diameter, which projects from the surface of the fifth plate by an amount equal to the thickness of the fourth plate, passing through the rectangular perforation in the latter. Thus, the three sets of spider lines are sensibly in the same plane. The entire plate can be moved horizontally by the three antagonistic screws *y h g*, to adjust the line of collimation. The plate is fastened to the piece through which the screws pass by the projection *i*.

The sixth plate forms the basis for all the rest, and is pierced for the holes in which the micrometer screws turn. It is fastened to the eye-tube E by a cylinder which slides tightly into E, and is fastened by the six screws *k*.

(29) *The Micrometer Movements.*—In all the micrometers of this instrument the screws revolve with the heads. In the microscope micrometers the bearings of the heads are fixed, and the screws passing into the movable plates draw them toward the micrometer heads as the screws turn forward. But in the eye-piece the female screws are bored into the sixth plate, and the bearings of the heads move with the micrometer plate. The projection *d* of the zenith distance micrometer plate is attached to a cross *n*, *n*, *n*, (Fig. 3) through a circular, the opening in the centre of which the micrometer screw passes freely, and on which it presses. Thus, as the screw turns forward, the screw, the micrometer head, *n*, and *d* are all slowly moved downward. The middle *n* is the index from which the fractions of a revolution are read, but they can equally be read from the front index. *s* is one of two spiral springs by which the cross is kept pressed against the micrometer head, and made to follow it as it is withdrawn.

(30) *Rogers' Self-registering Micrometer Head.*—The zenith distance micrometer head is furnished with the self-register invented by Mr. Joseph A. Rogers, and described in the Astronomische Nachrichten, No. 1493. The four arms *o*, *o'*, *o''*, *o'''* (Fig. 1) are movable around the same centre with the micrometer, which passes through openings in the middle of them. They are held to the micrometer by the friction of elastic bent plates which surround the centre. Thus, when free, they move with the micrometer head; but when held, the head moves past them. One end of each terminates exactly with the radius of the micrometer head, and serves as an index, as may be seen in Fig. 3. The other end projects a little beyond the cylindrical surface of the head, and may be held by notches in the levers *l l*, (Fig. 2.) When thus held, the index ends are in the same vertical line with the principal fixed index, as shown in Fig. 3.

The mode of operation is as follows: The micrometer being in any position which it is desired to register, one of the levers (Figs. 1 and 2) is moved back with the finger to the position *l'*, and the movable index is thus set free. It now moves round with the micrometer, and thus points continually at the reading indicated when it was set free. Four successive readings may thus be registered in succession without taking the eye from the telescope.

The object of the two extra divided cylinders on the micrometer head is simply to facilitate the reading of the four movable indexes.

(31) *The Oculars.*—The instrument is furnished with five oculars, of which the magnifying powers are, approximately—

No. 1, 130;
2, 150;
3, 180;
4, 260;
5, 360.

No. 3 is that hitherto most used in astronomical observations.

(32) *The Reticule.*—The fixed vertical spider lines are twenty-three in number, arranged as in Fig. 4. Seven of these are at equal intervals of $12\frac{1}{2}$ seconds of time, and are designated by the Roman numerals I–VII. For convenience, a second notation is adopted, as shown at the bottom of the figure, the wires being divided into five groups A to E, and the wires of each group designated by subscript Arabic numerals. Thus the wires II, III, IV, V, and VI are designated indifferently by these numbers or by the symbols A_2, B_1, C_2, D_2, E_1. The wires of set C are 2*s.* apart; those of B and D 1*s.*5 and 2*s.*5 respectively. Sets A and E are rarely used. Stars are usually observed in right ascension over B D and the three middle wires of C. In observations of planets one limb is observed over B and D, the other over C.

The middle of the field is shown by a single pair of fixed horizontal wires about 8″ apart.

A single vertical wire is moved by the horizontal micrometer.

(33) The horizontal movable wires consist of a single pair 4″.6 apart, between which objects are usually observed, and a couple of single wires at a distance of ten micrometer revolutions on each side of the central pair. The former were inserted by the machinist of the observatory after the mounting of the instrument, in lieu of a single wire inserted by the makers.

(34) *The Illumination.*—The flames of the two lamps L, L, Plate IV, are nearly surrounded, by parabolic reflectors. The light passes through the supporting tube and the pier into the cylinder D; here it meets a combination of lenses and prisms, shown in Plate VII, Figs. 4 and 5. Fig. 4 gives an end view of the combination, as seen from the lamp. Fig. 5 gives a side view. The nearly cylindrical frustum of a cone C is pierced in the direction of its axis by five holes, *a*, *b*, *b*, *b*, *b*. The light which enters *a* passes through two lenses, and through the perforations in the pivots of the instrument to the centre of the axis. That which passes through the *b's* meets four prisms, *p*, *p*, from the interior surfaces of which it is reflected at an angle of about $42\frac{1}{2}°$, so as to be deflected in all about 85°. C and D fit snugly in a perforation in the centre of the cylinder D, Plate IV; a hole receives the pin *e*, and thus fixes the position of the apparatus. The latter can be removed by unscrewing the lamp-tubes T, and reaching the arm through the pier. When in place, its position is such that the light reflected from the prisms *p* passes down the pipes *k*, (Plate IV,) and into the reflectors of the microscopes, by which it is thrown upon the divided limb.

(35) The central ray, passing through *a*, if it enters the clamp end of the axis, is conducted to four prisms in the central tube of the axis, from which it is reflected down the side of the tube to four more prisms in the eye-piece, and thence to the wires, in the usual way. Thus the wires may be illuminated or darkened by turning a milled head on the clamp side of the eye-piece.

(36) The light which enters the other end of the axis is reflected from a prism about $4\frac{1}{2}$ inches from the centre of the axis, directly to the eye-piece. It shows the dark wires on the bright field. It may be changed in color from yellow to blue, or cut off entirely by turning a milled head on the side of the eye-piece opposite the clamp.

(37) *The Collimators.*—Fig. 6, Plate VII, gives a general view of each collimator. The object glasses have each $2\frac{1}{8}$ inches clear aperture, and 35 inches focal length. The eye-piece

of one, which is designated collimator A, is furnished with a pair of parallel wires, distant about 9″, with a single wire crossing them at right angles. The wires of the other, called collimator B, form a simple cross. When it is required to set the collimators opposite each other, the coincidence is that of a single wire of B with the mean of the parallel wires of A.

The steel plate which carries the wires is held between four antagonistic screws, but has no binding screws.

The supporting collars of the collimators are only 23 inches apart, so that each end of the collimators projects about six inches from its support.

Each collimator is furnished with a delicate spirit level, which sets on the supporting collars.

(38) The Ys of the collimators, with the way in which they are fastened to the piers, is shown in Figs. 7 and 8. The hemispherical bottoms of the screws *a*, *a*, *a*, rest in three cavities in a Y-shaped block of metal, which is set into the pier with plaster. The outline of the block is shown by the dotted lines. The three screws *b*, *b*, *b*, pass centrally through *a*, *a*, and thus bind the V-plate firmly to the block. The level of either pivot is adjusted by loosening *b*, and turning *a* to the required extent. The azimuth is adjusted by the antagonistic screws *c*, *c*. When the V is in position it is bound by the screws *d*, *d*, *e*, *e*.

PART II.

GENERAL METHOD OF INVESTIGATING THE ERRORS OF A TRANSIT CIRCLE.

(39) The most important and difficult part of this investigation is the determination of the effect of gravity in changing the relative positions of the various parts of the instrument, and the correction of observations for this effect. It is therefore proposed to develop a general method of determining, either rigorously, or with a near approach to rigor, the effect of gravity in changing results of the various observations by which the position of a star is determined.

The necessity for a flexure correction may be regarded as an imperfection in an instrument, since, if it were well balanced, and equally elastic in all its parts, no such correction would ever be necessary. Artists generally attempt to avoid this imperfection by distributing the weight of the instrument so that it shall be perfectly symmetrical with respect to the centre. Thus, in the Washington Transit Circle, the two circles are of equal weight; the clamp is counterpoised by a cylinder at an equal distance on the other end of the axis; and the tubes of the telescope had their outer and inner surfaces turned simultaneously, in order to secure perfect equality of thickness in every rectangular section of the tube. Yet, the effect of irregular flexure cannot, by any means, be neglected, and that of the two circles exhibits a very sensible difference. A similar remark will probably apply to every large instrument ever made. It will not, therefore, do to assume that such an instrument is equally elastic in any of its corresponding parts, however unexceptionable may be its construction.

(40) The only arbitrary hypothesis we shall assume respecting any law of elasticity in the instrument is, that the relative flexure of the various parts is the same as if the instrument, during a revolution on its axis, were always supported by the same particles of its mass. The nature and the results of this hypothesis will be rendered more clear if we suppose the instrument to remain at rest, and gravity, with the forces which oppose it, to act in various directions. The parts of the instrument which sustain these opposing forces are mainly those which press on the friction rollers of the counterpoises. Reflecting, now, that the direction of these forces always passes within two or three inches of the centre of the axis, and that our hypothesis can be incorrect only by a combination of the two following circumstances, viz: 1. An unequal elasticity in the parts of the conical axis on which the friction rollers successively press; 2. Such a relation of elasticities in other parts of the instrument that the unequal elasticity of this narrow band on the conical axis causes the instrument to change its form according to a different law from that which would hold true if the elasticity of the band were uniform—it would seem that the hypothesis must be a safe one.

Experiment shows that the effect on elastic bodies of forces which are very small in proportion to the rupturing force is strictly subject to the law of superposition of small motions; that is, that the combined effect of several such forces is the sum of the effects that each would produce acting separately.

(41) Still supposing the instrument fixed, and the direction of gravity variable, let b represent the amount by which a point of the instrument is moved from its normal position in the direction of an arbitrary fixed axis when gravity acts in the direction of that axis, and let a represent the displacement in the same direction when gravity acts at an angle of 90° with the axis. If gravity acts at an angle W with the axis, it may be resolved into the forces $g \cos W$ and $g \sin W$, acting along and perpendicularly to the axis. The first component will, by the law just referred to, produce the displacement $b \cos W$, and the second the displacement $a \sin W$, and the whole effect of gravity will be $a \sin W + b \cos W$.

Suppose, then, any system of rectangular co-ordinates fixed in the instrument, and revolving with it; then, as the instrument revolves, the law of displacement of any point in the direction of the movable co-ordinates will be given by the equations

$$\delta x = a \sin W + b \cos W,$$
$$\delta y = a' \sin W + b' \cos W,$$
$$\delta z = a'' \sin W + b'' \cos W.$$

W being the angle of position of the instrument, and a, a', a'', b, b', b'' constants, to be determined by observation.

(42) The method of determining such of these constants as are necessary in the correction of astronomical observations will next be shown. To admit of the application of this method it is necessary that the instrument should be supplied with a pair of collimators, each of which admits of being accurately levelled, in order that it may be used to determine the horizontal point, and an artificial horizon for observing the nadir point by reflection from mercury. A vertical collimator, to be fixed over the centre of the instrument, and set vertical either by reflection of its wires from the mercury bath, or by levelling its axis, would also be valuable as an independent check on some of the results.

(43) Let us now consider the causes which will affect the reading of any microscope. If the divisions are truly cut in direction—that is, if each stroke is sensibly in the same plane with the axis of the circle, the error of each point in any one division may be regarded as the same. We shall therefore regard the divisions as a series of points. When a microscope is read, the position of the point under the microscope is determined by bringing a micrometer wire into coincidence with the image of the point in the microscope. This micrometer wire in the German instruments is an imaginary one bisecting the space between two real ones. The division point is then in the plane which passes through this micrometer wire and the optical centre of the object glass of the microscope. Let us consider, as the zero of the micrometer its position when the plane passing through the object glass and the micrometer wire is at right angles to the face of the circle. The micrometer reading of the division will then be proportional to the tangent of the angle which the plane containing the division makes with this last plane. No appreciable error will result from supposing this adjustment to be perfect.

The subsequent investigation will be precisely the same if we suppose the divisions to radiate from the centre of the circle, and the micrometer wires in the microscope to be a point, which is brought into coincidence with the image of the division. The micrometer reading will then represent the tangent of the angle which the plane, passing through the centre of the object glass and the division, makes with that passing through the centre of the object glass and the axis of the circle.

If the eight microscopes were correctly adjusted in position, and the circles perfect in form and position, and not acted on by gravity, the instrument might be so set that all the microscopes should read zero at the same time. The following include all possible deviations of the circles and the microscopes from this state.

α. Errors in the Angular Positions of the Microscopes.—When all the microscope micrometers are set at zero, the planes passing through the micrometer wires and the centre of the object glasses ought to cut the line of divisions at points making angles with the centre of the axis equal to the nominal distance of the microscopes.

β. Errors in the General Position of the Circle.—These will be six in number: small motions of translation in the direction of three co-ordinate axes, and small motions of rotation around those axes.

γ. Errors in the Position of the Division on the Circle.—These may be three in number. 1. Errors in the angular position of the division. 2. Deviation of the surface on which the divisions are cut from a plane cutting the axis of revolution of the instrument at right angles. 3. Change in the position of the division produced by the effect of gravity on the circle.

The position of a division may be in error by any of the nine causes, β and γ. To determine their effect, let us refer the position of the division to three co-ordinate axes, those of X and Y being in the plane of the circle, and that of Z being the axis of revolution. Let A be the angle which the plane of the micrometer wire and object glass makes with the axis of the circle, B the angle of position of the microscope, counted from the axis of X.

R, the radius of the circle.

c, the distance of the centre of the object glass from the plane of the circle.

r, the reading of a microscope from its own zero.

ρ, the mean reading of a pair of opposite microscopes.

m, the error of position of a microscope.

M, the mean error of a pair of opposite microscopes.

e, the error of division.

ϵ, the mean error of a pair of opposite divisions, or an error in the position of a diameter.

a, b, the flexure coefficients of any point of the circle.

α, β, half the difference of a or b for two opposite points of the circle.

ξ, η, the possible motions of translation of the centre of the circle relatively to X and Y.

ω, the error of pointing of the telescope.

The differential coefficient of tan A, (which is proportional to r) with respect to the co-ordinates of the division, will then be:

$$\frac{d.\tan A}{dx}=\frac{R}{c}\frac{dr}{dx}=-\frac{\sin B}{c};$$

$$\frac{d.\tan A}{dy}=\frac{R}{c}\frac{dr}{dy}=\frac{\cos B}{c};$$

$$\frac{d.\tan A}{dz}=\frac{R}{c}\frac{dr}{dy}=\frac{\tan A}{c}.$$

The effect of small changes δx δy and δz on the reading of a microscope will therefore be

$$\delta r=-\sin B\frac{\delta x}{R}+\cos B\frac{\delta y}{R}+\tan A\frac{\delta z}{R}. \quad (1)$$

Changes in the co-ordinate z can arise only from a motion of translation of the instrument in the direction of its axis; from motions of rotation around the axis of X or of Y, in consequence of irregularity of pivots; from deviation of the circle from a plane cutting the axis at right angles; or from lateral flexure of the circle. If the effect of any of these causes is appreciable, δz must be determined by direct measurement, independently of the readings of the micro-

scopes, and the latter must be corrected accordingly. To judge when δz can be sensible, we remark that in general

$$\tan A = r\frac{R}{c} + \text{constant},$$

the constant being the value of tan A when the micrometer reads zero, and therefore depending on the parallelism of the microscope to the axis of the circle. If the changes in r do not exceed $10''$ and $\frac{R}{c}$ does not exceed 12, A will not differ more than $1'$ from its mean value in a series of readings. Since, by proper adjustment, this mean value may be made very small, there is no necessity that A should ever exceed $1'$ in a series of measures. In this case, z will have to change by $\frac{1}{600}$ the radius of the circle to produce a change of $0''.1$ in r. This change being ten times as great as any that a well made instrument need be liable to, the last term in δr may be regarded as insensible, if the microscopes are carefully adjusted. This will dispose of four of the nine causes which may affect the relative position of the division and object glass. The remaining five will be included in the equations of condition.

Every micrometer reading will then, by equation (1), give an equation of the form

$$r = m - \frac{\xi}{R}\sin B + \frac{\eta}{R}\cos B + a\cos B + b\sin B + e + \omega. \qquad (2)$$

(44) The problem now is to make such mechanical arrangements and such readings, that from a series of equations of this form we may be able to determine the values of the coefficients in the second member, so far as it may be necessary for the correction of observed zenith distances. To obtain a complete correction for the readings of a single microscope would require the solution of equations of extreme complexity; we shall, therefore, hereafter consider the corrections of a pair of opposite microscopes. If, now, another microscope be placed at the angle $180°+B$, and its reading, taken simultaneously with (2,) be indicated by an accent, we shall have

$$r' = m' + \frac{\xi}{r}\sin B - \frac{\eta}{R}\cos B - a'\cos B - b'\sin B + e' + \omega.$$

Adding this equation to (2), and observing that by the rotation already given

$$r + r' = 2\rho,$$
$$m + m' = 2M,$$
$$a - a' = 2\alpha,$$
$$b - b' = 2\beta,$$
$$e + e' = 2\varepsilon,$$

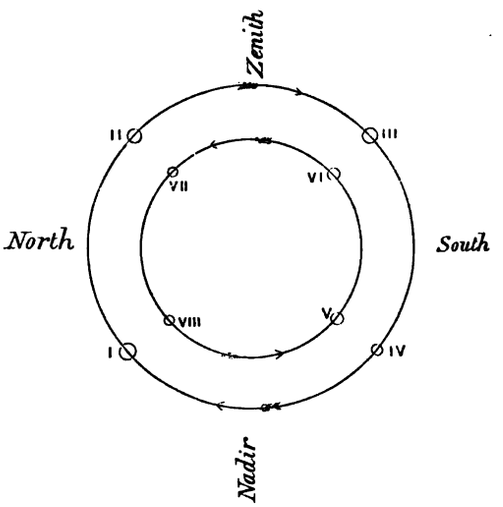
we shall have, by taking the mean reading of a pair of microscopes,

$$\rho = M + \alpha\cos B + \beta\sin B + \varepsilon + \omega, \qquad (3)$$

an equation more simple than (2) and equally complete.

(45) The mechanical arrangements necessary for the proposed method are these: The instrument must be furnished with two finely divided circles, each read by four microscopes. At least one circle must be capable of being turned on the axis of the telescope, and set in any required position relatively to the telescope. In what follows, we shall suppose both circles thus movable. The microscopes must also be capable of being set at different angular positions. The details of the arrangement, and the mode of numbering the microscopes and

counting the degrees, will be supposed to correspond to those of the Washington transit circle. The accompanying diagram shows the arrangements referred to, as seen from the west. The outer circle represents the westernmost one, and shows the positions of microscopes I to IV, which are on the west pier. The inner circle represents the eastern one, and shows the positions of the four microscopes V to VIII, which are on the east pier. The arrows point in the direction in which the degrees, as numbered on each circle, increase. It will be seen that the two circles are divided in opposite directions, so that when the instrument is reversed the circle now east will read in the same direction as the former one, and so for the west. Also, as the instrument is turned in any direction, the sum of the readings of any microscope on the west pier and any microscope on the east pier will be a constant depending on the relative positions of the circles.



We shall suppose the axis of X to pass in the direction of microscopes I–III, and that of Y in the direction of II–IV. Thus, we have for microscopes

I and VIII, B=180°;
II and VII, B= 90°;
III and VI, B= 0°;
IV and V, B=270°.

(46) The flexure effect which it is required to determine is the change in the relative direction of two lines, namely, the line joining the object glass and eye-piece micrometer of the telescope, and that joining any pair of opposite divisions which chance to be under a pair of microscopes. This will be determined by finding the change of direction of each line relatively to that part of the central axis to which the circle is fastened. The total flexure will therefore be divided into two parts: 1. The flexure of the central axis relatively to the ends of the telescope. 2. The flexure of the diameters of the circle relatively to the centre. The coefficients of the first flexure we shall represent by f and g for the east circle, and by f' and g' for the west one. Suppose, then, that the line joining the object glass and eye-piece revolves uniformly; that part of the axis which passes through the circle and holds it by pressure may be affected with an inequality of the form

$$f \sin Z + g \cos Z.$$

Again, supposing this part of the axis to revolve uniformly, it is possible that a diameter of the circle may be affected with an inequality of the form

$$\alpha \sin \zeta + \beta \cos \zeta,$$

α and β being coefficients to be determined separately for each pair of divisions, and ζ being the angle of position of the diameter counted from an arbitrary axis. On the east circle we shall for convenience, count ζ from microscope VI through V, VIII, and VII, and on the west circle from microscope II through I, IV, and III. Then, when any division D comes under microscope V, the mean reading of V and VII will, by the effect of gravity, be increased by the quantity

$$\alpha.D.$$

When the same division comes under VI, the mean reading of microscopes VI and VIII will be increased by the quantity

β.D.

The same statement will apply to the west circle by diminishing the number of the microscope by IV, so that α'.D and β'.D will be the flexure when the division D comes under microscopes I and II.

Since changing ζ by 180° is the same as changing the algebraic sign of α and β, we have

$$\alpha.(D+180^\circ) = -\alpha.D,$$
$$\beta.(D+180^\circ) = -\beta.D.$$

In equation (3) we hereafter substitute for $\alpha \cos B + \beta \sin B$ the two flexures

$$f \sin Z + g \cos G + \alpha \sin \zeta + \beta \cos \zeta.$$

Let us now take four divisions on each circle, such that they may all be under the microscopes at once. Represent them by a, b, c, d on the east circle, and a', b', c', d' on the west circle, the lettering being in the same direction with the numbering of the degrees, and of the microscopes. We then have

$\epsilon.a = \epsilon.c =$ error of position of line joining $a-c$,

$a.a =$ error of flexure of $a-c$ when under microscope V,

$\beta.a =$ error of flexure of $a-c$ when under microscope VI.

Suppose, also, that when a is under microscope V, a' is under microscope I. Also put

$$f \sin Z + g \cos Z = f.z. = -f.(z+180^\circ),$$
$$-f' \sin Z + g' \cos Z = f'.z. = -f'.(z+180^\circ),$$

and let

$$Z_0, \quad Z_0+90^\circ, \quad Z_0+180^\circ, \quad Z_0+270^\circ$$

be the four zenith distances of the telescope toward the south when the divisions are brought successively under the four microscopes. Represent by $\rho n.z$ the mean readings of a pair of opposite microscopes. Then we have the following equations of the form (3):

First position of telescope Z_0.

$$\rho 5.0 = M_5 + \epsilon.a + f.z_0 + a.a + \omega.0, \qquad \rho 1.0 = M_1 + \epsilon'.a + f'.z_0 + a'.a - \omega.0,$$
$$\rho 6.0 = M_6 + \epsilon.b + f.z_0 + \beta.b + \omega.0, \qquad \rho 2.0 = M_2 + \epsilon'.b + f' z_0 + \beta'.b - \omega 0.$$

Second position, Z_0+90°.

$$\rho 5.90 = M_5 + \epsilon.b + f.(z_0+90^\circ) + a.b + \omega.90, \qquad \rho 1.90 = M_1 + \epsilon'.d + f'.(z_0+90^\circ) + a'.d - \omega.90,$$
$$\rho 6.90 = M_6 + \epsilon.c + f.(z_0+90^\circ) + \beta.c + \omega.90, \qquad \rho 2.90 = M_2 + \epsilon'.a + f'.(z_0+90^\circ) + \beta'.a - \omega.90.$$

Third position, Z_0+180°.

$$\rho 5.180 = M_5 + \epsilon.c + f.(z_0+180^\circ) + a.c + \omega.180, \qquad \rho 1.180 = M_1 + \epsilon'.c + f'.(z_0+180^\circ) + a'.c - \omega.180,$$
$$\rho 6.180 = M_6 + \epsilon.d + f.(z_0+180^\circ) + \beta.d + \omega.180, \qquad \rho 2.180 = M_2 + \epsilon'.d + f'.(z_0+180^\circ) + \beta'.d - \omega.180.$$

Fourth position, Z_0+270°.

$$\rho 5.270 = M_5 + \epsilon.d + f.(z_0+270^\circ) + a.d + \omega.270, \qquad \rho 1.270 = M_1 + \epsilon'.b + f'.(z_0+270^\circ) + a'.b - \omega.270,$$
$$\rho 6.270 = M_6 + \epsilon.a + f.(z_0+270^\circ) + \beta.a + \omega.270, \qquad \rho 2.270 = M_2 + \epsilon'.c + f'.(z_0+270^\circ) + \beta'.c - \omega.270.$$

(47) For perspicuity, let us recapitulate the adopted notation, by explaining the meaning of the above equations.

If there were no errors of division or adjustment, and no elasticity of the parts of the instrument, the readings of all the microscopes would be zero. The readings not being zero, and $\rho 5.0$ being the mean reading of microscopes V and VII when the telescope points approximately at zenith distance Z_0, the first equation indicates that this value of $\rho 5.0$ is due to the five following causes:

1. Error of position of the microscopes V and VII, (M_5.)

2. Errors of the divisions a and c which are under these microscopes, $(\epsilon.a.)$

3. Rotation of the axis of the telescope relatively to its line of sight, in consequence of the irregular effect of gravity, $(f.z_0.)$

4. Angular change of line joining divisions a and c relatively to axis of rotation from the same cause, $(a.a.)$

5. Incorrect setting of the telescope, $(\omega.0.)$

In any one of the above four positions take the sum of ρ_1 or ρ_2, and ρ_5 or ρ_6. Take also the corresponding sum in a position of the circle 180° different, then subtract the two sums, remembering that

$$f.z = -f.(z+180^\circ),$$
$$a.a \text{ or } \beta.a = -a.(a+180^\circ) \text{ or } \beta.(a+180^\circ),$$
$$\epsilon.a = \epsilon.(a+180^\circ),$$

and call the difference K, using the notation

$$K.15.i = \rho_1.i + \rho_5.i - \rho_1.(i+180^\circ) - \rho_5.(i+180^\circ).$$

Put also $g.z = f.z + f.'z$, and we have the equations

$$K.15.0 = 2a.a + 2a'.a + 2g\,z, \qquad K.15.90 = 2a.b - 2a'.b + 2g.(z+90^\circ),$$
$$K.16.0 = 2\beta.b + 2a'.a + 2g\,z, \qquad K.16.90 = -2a.\beta - 2a'.b + 2g.(z+90^\circ),$$
$$K.25.0 = 2a.a + 2\beta'.b + 2g.z, \qquad K.25.90 = 2a.b + 2\beta'.a + 2g.(z+90^\circ),$$
$$K.26.0 = 2\beta.b + 2\beta'.b + 2g.z, \qquad K.26.90 = -2\beta.a + 2\beta'.a + 2g.(z+90^\circ).$$

Of these eight equations it will be seen that only six are independent, any one of each four being identically derivable from the other three.

Now, let the position of the east circle on the axis of the telescope be changed by 180°, and let the same divisions be again read. Treating the equations derived from the readings in the same manner, and distinguishing the new K's by an accent, we shall have

$$K'.15.0 = -2a\,a + 2a'.a + 2g.z, \qquad K'.15.90 = -2a.b - 2a'.b + 2g.(z+90^\circ),$$
$$K'.16.0 = -2\beta.b + 2a'.a + 2g.z, \qquad K'\,16.90 = 2\beta.a - 2a'.b + 2g.(z+90^\circ),$$
$$K'.25.0 = -2a\,a + 2\beta'.b + 2g.z, \qquad K'.25.90 = -2a.b + 2\beta'.a + 2g.(z+90^\circ),$$
$$K'.26.0 = -2\beta.b + 2\beta'.b + 2g.z, \qquad K'.26.90 = 2\beta.a + 2\beta'.a + 2g.(z+90^\circ).$$

Now, turn the west circle 180° on its centre and again repeat, distinguishing the K's by two accents, and we have

$$K''.15.0 = -2a.a - 2a'.a + 2g.z, \qquad K''.15.90 = -2a.b + 2a'.b + 2g.(z+90^\circ),$$
$$K''.16.0 = -2\beta.b - 2a'.a + 2g.z, \qquad K''.16.90 = 2\beta.a + 2a'.b + 2g.(z+90^\circ),$$
$$K''.25.0 = -2a.a - 2\beta'.b + 2g.z, \qquad K''.25.90 = -2a.b - 2\beta'.a + 2g.(z+90^\circ),$$
$$K''.26\,0 = -2\beta.b - 2\beta'.b + 2g.z, \qquad K''.26.90 = 2\beta.a - 2\beta'.a + 2g.(z+90^\circ).$$

These equations suffice to give two values of each of the required quantities. But, to have as many independent determinations as possible, a fourth series of readings are taken with the east circle restored to its original position. We then have

$$K'''.15.0 = 2a.a - 2a'.a + 2g.z, \qquad K'''.15.90 = 2a.b + 2a'.b + 2g.(+z90^\circ),$$
$$K'''.16.0 = 2\beta.b - 2a'.a + 2g.z, \qquad K'''.16.90 = -2\beta.a + 2a'.b + 2g.(z+90^\circ),$$
$$K'''.25.0 = 2a.a - 2\beta'\,b + 2g.z, \qquad K'''.25.90 = 2a.b - 2\beta'.a + 2g.(z+90^\circ),$$
$$K'''.26.0 = 2\beta.b - 2\beta'.b + 2g.z, \qquad K'''.26.90 = -2\beta.a - 2\beta'.a + 2g.(z+90^\circ).$$

Adding together the corresponding equations of the first and third series, and also those of the second and fourth, we shall have

$$4gz = K.15.0 + K''.15.0 = K.16.0 + K''.16.0 = K.25.0 + K''.25.0 = K.26.0 + K''.26.0$$
$$= K'.15.0 + K'''.15.0 = K.'16.0 + K'''.16.0 = K'.25.0 + K.''25.0 = K'.26.0 + K'''.26.0.$$

Of these eight values only six are really independent, being subject to the condition that the sum of the extreme values is equal to the sum of the means, which furnishes a check on the accuracy of the computation.

Again, by simple subtraction of the corresponding equations in successive series, we find the following four distinct values of each of the eight quantities $\alpha.a$, $\beta.a$, $\alpha.b$, $\beta.b$, $\alpha'.a$, $\beta'.a$, $\alpha'.b$, $\beta'.b$, which give the circle flexure.

$4\alpha.a=$	$4\beta.a=$	$4\alpha.b=$	$4\beta.b=$
K .15.0—K′ .15.0,	K′.16.90—K .16.90,	K .15.90—K′.15.90,	K .16.0—K′ .16.0,
K .25.0—K′ .25.0,	K′.26.90—K .26.90,	K .25.90—K′.25.90,	K .26.0—K′ .26.0,
K‴.15.0—K″ .15.0,	K″.16.90—K‴.16.90,	K‴.15.90—K″.15.90,	K‴.16.0—K″ .16.0,
K‴.25.0—K″ .25.0.	K″.26.90—K‴.26.90.	K‴.25.90—K″.25.90.	K‴.26.0—K″ .26.0.

$4\alpha'.a=$	$4\beta'.a=$	$4\alpha'.b=$	$4\beta'.b=$
K .15.0—K‴.15.0,	K .25.90—K‴.25.90,	K‴.15.90—K .15.90,	K .25.0—K‴.25.0,
K .16.0—K‴.16.0,	K .26.90—K‴.26.90,	K‴ 16.90—K .16.90,	K .26.0—K‴.26.0,
K′ .15.0—K″ .15.0,	K′ .25.90—K″ .25.90,	K″ .15.90—K′ .15.90,	K′ .25.0—K″ .25.0,
K′ .16.0—K″ .16.0.	K′ .26.90—K″ .26.90.	K″ .16.90—K′ .16.90.	K′ .26.0—K″ .26.0.

(48) Thus, the flexure of the circles, in so far as it affects the mean reading of any pair of opposite microscopes, and the relative flexure of the two ends of the axis, are completely and rigorously determined. It remains to determine the flexure of the line joining the eye and object end of the telescope relatively to the axis itself. We have supposed, for brevity,

$$g.z=(f-f')\sin Z+(g+g')\cos Z,$$

and have shown how to find $g.z$, and therefore $f-f'$, and $g+g'$. The coefficients f g, f' g', may now be found separately and independently by observations of the nadir point and collimators. An observation of a levelled collimator, corrected for inequality of collimator pivots, difference of latitude of circle and collimator, aerial refraction, and collimation error of the collimator, shows the circle reading when the line of sight of the telescope is truly horizontal. The coincidence of the direct and reflected images of the zenith-distance wires shows the circle reading when the telescope is truly vertical. When these readings are corrected for circle flexure, the horizontal and vertical circle readings will be as follows:

	East circle.	West circle.
South horizontal reading,	C_0+f	C'_0-f'
North horizontal reading,	C_0-f	C'_0+f'
Nadir reading,	C_0-g	C'_0-g'.

C_0 being the true reading, independent of flexure. From these equations the values of C_0, f, and g, c'_0, f', and g', may all be determined.

The values of f and f' may also be determined independently by viewing the wires of one collimator through the other, and making the horizontal wires of the latter coincide with the images of those of the former. If, then, the micrometer wires of the telescope be set successively upon the images of the two collimator wires, the line joining its object glass and micrometer wires will have moved accurately through the space of 180°, while the circle will indicate a motion of $180°\pm 2f$. The agreement of the two values of f will afford a check upon the accuracy of the collimator determinations.

(49) One precaution is, however, indispensable to an accurate result. The different strata of air in the room must be as nearly as possible of the same temperature. For, if there be any admixture of warm and cool air, the former will ascend, and we shall thus have a temperature increasing with the height. If, now, this increase amount to one degree Fahrenheit in nine feet, the curvature of the ray will be equal to that of the water level, so that it would never leave the earth.

The course of the ray being curved, the value of f obtained from the opposing collimators will be vitiated. On the other hand, if we adopt the other method, there is always a possibility of error arising from irregularities or uncertain differences of diameter of the collimator pivots, or possible flexure of some part of the collimator itself. However f is determined, the observations should be made with the shutters open, and under atmospheric conditions, as nearly as practicable, like those under which the astronomical observations are made. Considering the difficulty of rigorously fulfilling this condition, it would, perhaps, be better to determine f by reflection observations of stars. g also admits of being determined by a comparison of North Polar Distances of stars near the zenith in reversed positions of the instrument.

ERRORS OF DIVISION.

(50) The method of determining the errors of division is, in principle, that usually adopted, the operation being so conducted as to eliminate all irregular flexure of the circles.

Let us suppose the two pairs of opposite microscopes set at the distance B, the angle position of the first pair being 0°, and that of the second pair, B. Take a series of pairs of divisions at the distance B, and let these divisions be successively brought under two pairs of microscopes. Then, using the same notation as in § (43),

$$\begin{aligned}
\text{Mic. I.}\quad & r_1 = m_1 + \frac{\eta}{R} + a_1 + e_1 + \omega_1, \\
\text{II.}\quad & r_2 = m_2 + \frac{\eta}{R}\cos B - \frac{\xi}{r}\sin B + a_2\cos B + b_2 \sin B + e_2 + \omega_1, \\
\text{III.}\quad & r_3 = m - {}_3\frac{\eta}{R} - a_3 + e_3 + \omega_1, \\
\text{IV.}\quad & r_4 = m_4 - \frac{\eta}{R}\cos B + \frac{\xi}{R}\sin B - a_4\cos B - b_4 \sin B + e_4 + \omega_1.
\end{aligned} \tag{1}$$

Whence, adding the odd and even equations

$$\begin{aligned}
\rho^{(1)}_1 &= M_1 + a_1 + \varepsilon_1 + \omega_1, \\
\rho^{(1)}_2 &= M_2 + a_2\cos B + \beta_2 \sin B + \varepsilon_2 + \omega_1.
\end{aligned}$$

Turning the circles through the distance B, we shall have

$$\begin{aligned}
\rho^{(2)}_1 &= M_1 + a_2 + \varepsilon_2 + \omega_2, \\
\rho^{(2)}_2 &= M_2 + a_3\cos B + \beta_3 \sin B + \varepsilon_3 + \omega_2.
\end{aligned} \tag{2}$$

Turning again

$$\begin{aligned}
\rho^{(3)}_1 &= M_1 + a_3 + \varepsilon_3 + \omega_3, \\
\rho^{(3)}_2 &= M_2 + a_4\cos B + \beta_4 \sin B + \varepsilon_4 + \omega_4.
\end{aligned}$$

Let $2i$ be the number of motions necessary to bring the circle back to its first position. Then, the $(i+1)$th reading will have brought it round 180°, so that the same divisions as at first will be under the microscopes. The readings after the ith will then give

$$\begin{aligned}
\rho^{(i+1)}_1 &= M_1 - a_1 + \varepsilon_1 + \omega(i+1), \\
\rho^{(i+1)}_2 &= M_2 - a_2\cos B - \beta_2 \sin B + \varepsilon_2 + \omega(i+1), \\
\rho^{(i+2)}_1 &= M_1 - a_2 + \varepsilon_2 + \omega(i+2), \\
\rho^{(i+2)}_2 &= M_2 - a_3\cos B - \beta_3 \sin B + \varepsilon_3 + \omega(i+2), \\
&\text{\&c.,} \quad \text{\&c.,} \quad \text{\&c.}
\end{aligned} \tag{3}$$

Taking the sums of readings in opposite positions of the circle, we have

$$\rho^{(1)}_1+\rho^{(i+1)}_1=2M_1+2\epsilon_1+\omega_1+\omega.(i+1),$$
$$\rho^{(1)}_2+\rho^{(i+1)}_2=2M_2+2\epsilon_2+\omega_1+\omega.(i+1).$$

Using the notation

$$2I.1.2=\rho^{(1)}_2-\rho^{(1)}_1+\rho^{(i+1)}_2-\rho^{(i+1)}_1, \tag{4}$$

we have

$$\begin{aligned} &M_2-M_1+\epsilon_2-\epsilon_1=I.1.2,\\ &M_3-M_1+\epsilon_3-\epsilon_2=I.2.3,\\ &M_4-M_1+\epsilon_4-\epsilon_3=I.3.4,\\ &\text{\&c.,}\quad\text{\&c.,}\quad\text{\&c.} \end{aligned} \tag{5}$$

Taking the sum of the entire series of values of I, and dividing by their number, the ϵ's will destroy each other, and we shall have

$$M_2-M_1=\frac{\Sigma I}{i}. \tag{6}$$

Putting

$$\Delta.1.2=I.1.2-(M_2-M_1), \tag{7}$$

we shall have

$$\begin{aligned} &\epsilon_2-\epsilon_1=\Delta.1.2,\\ &\epsilon_3-\epsilon_2=\Delta.2.3,\\ &\epsilon_4-\epsilon_3=\Delta.3.4,\\ &\text{\&c.,}\quad\text{\&c.} \end{aligned} \tag{8}$$

Thus, where one ϵ is known, all the others may be found by successive addition of the differences Δ. If, however, the number i is considerable, the accidental errors of the various Δs may in the additions become considerable; it is therefore necessary that at least every fifth ϵ in each series be corrected by the results of another series in which the value of i shall be less than in the series in question. The correction will be really applied to M'_2-M_1, which will thus be determined independently for each sub-series. Suppose, for example, that in a first series the microscopes are at the distance 45°, so that $i=4$. The preceding formulæ will then give

$$\begin{aligned} &\epsilon.45-\epsilon.0=\Delta.0.45,\\ &\epsilon.90-\epsilon.45=\Delta.45.90,\\ &\epsilon.135-\epsilon.90=\Delta.90.135,\\ &\epsilon.0-\epsilon.135=\Delta.135.0. \end{aligned} \tag{9}$$

In a second series, let the microscopes be placed at the distance 15°. The formulæ will then give

$$\begin{aligned} &\epsilon.15-\epsilon.0=\Delta.0.15, \quad \epsilon.60-\epsilon.45=\Delta.45.60, \quad \text{\&c.;}\\ &\epsilon.30-\epsilon.15=\Delta.15.30, \quad \epsilon.75-\epsilon.60=\Delta.60.75, \quad \text{\&c.;}\\ &\epsilon.45-\epsilon.30=\Delta.30.45, \quad \epsilon.90-\epsilon.75=\Delta.75.90, \quad \text{\&c.} \end{aligned} \tag{10}$$

Adding each of (10) and comparing with (9), we have

$$\begin{aligned} &\Delta.0.15+\Delta.15.30+\Delta.30.45=\Delta.0.45,\\ &\Delta.45.60+\Delta.60.75+\Delta.75.90=\Delta.45.90,\\ &\text{\&c.,}\quad\text{\&c.,}\quad\text{\&c.} \end{aligned}$$

If the readings were perfect, these equations ought to be exactly satisfied. Not being satisfied, the difference is due to the accidental errors of the readings. Let ϵ' be the probable error of each of the left-hand Δs, ϵ that of the right-hand ones, and e the amount of the discrepancy. The most probable distribution of the discrepancy will then be,

to each left-hand Δ,

$$\frac{e\epsilon'^2}{\epsilon^2+3\epsilon'^2};$$

and to each right hand Δ,

$$\frac{e\epsilon^2}{\epsilon^2+3\epsilon'^2}.$$

The corrected values of Δ being substituted in (10), we shall have a series from which the most probable values of ϵ_0, ϵ_{15}, &c., may be found by successive addition from any arbitrarily assumed value of ϵ_0.

DETERMINATION OF THE ERRORS OF SPECIAL DIVISIONS.—PROBABLE ACCIDENTAL ERROR OF ISOLATED DIVISIONS.

(51) The determination of the error of each separate division being impracticable, this question arises: What is the probable error of any isolated division relatively to any considerable number of the divisions near it? Measuring a series of contiguous spaces on any part of the circle, we have the data for answering this question. These measures can also be made available for the termination of the special divisions used in observing the nadir and horizontal points, or any special star the position of which is required with a high degree of accuracy. The method of treating these measures is as follows:

The space between two adjacent divisions being very nearly four revolutions of the micrometer, let the measure of the first, second, third, &c., spaces be

$$4\text{ rev.}+d_1, \qquad 4\text{ rev.}+d_2, \qquad 4\text{ rev.}+d_3, \qquad \&c.$$

Represent also by x the error of runs of the microscope in four revolutions, and by e_0, e_1, &c., the errors of division. Then the measures give the series of equations

$$\begin{aligned} x+a_1&=e_1-e_0,\\ x+a_2&=e_2-e_1,\\ x+a_3&=e_3-e_2,\\ &\cdots\\ x+a.n&=e.n-e.(n-1.) \end{aligned} \qquad (1)$$

Here we have n equations for the determination of $n+2$ unknown quantities. The remaining two equations are given by the condition that the sum of the squares of the errors of division must be a minimum. We thus have

$$e_0\frac{de_0}{dx}+e_1\frac{de_1}{dx}+\&c.,\ +e.n\frac{de.n}{dx}=0, \qquad (2)$$

$$e_0\frac{de_0}{de}+e_1\frac{de_1}{de}+\&c.,\ +e.n\frac{de.n}{de}=0, \qquad (3)$$

e in the last equation representing any error of division taken at pleasure. Regarding x and e as independent variables, any change in e (x being given) will cause an equal change in all the other errors of division. We have, therefore,

$$\frac{de_0}{de}=\frac{de_1}{de}=\&c.\ \ldots\ =\frac{de.n}{de}=1,$$

and therefore,

$$e_0+e_1+\&c.\ \ldots\ +e.n=0. \qquad (4)$$

This equation, united with the equations (1,) will enable us to express each error of division in terms of x. Multiplying the first of equations (1) by n, the second by $n-1$, the third by $n-2$. &c., and adding, remembering that

$$\Sigma e=0,$$

we have an equation which gives e_0 in terms of x. By using the proper coefficients of elimination, we have each of the other errors in terms of x. These coefficients are indicated in the following table, in which each column is to be read downward in connection with the words on the left,

To express	e_0	e_1	e_2		e_{n-1}	e_n
the coefficient of a_1 is	n	-1	-1	. . .	-1	-1
" " " a_2 is	$n-1$	$n-1$	-2	. . .	-2	-2
" " " a_3 is	$n-2$	$n-2$	$n-2$	. . .	-3	-3
. . .	.	.	.		.	.
. . .	.	.	.		.	.
. . .	.	.	.		.	.
" " " $a.(n-1)$ is	2	2	2	. . .	$-(n-1)$	$-(n-1)$
" " " $a.n$ is	1	1	1	. . .	1	$-n$

The equations thus obtained are as follows:

$$\begin{aligned}
&\frac{n(n+1)}{2}x+na_1+(n-1)a_2+ \ldots . +a.n+(n+1)e_0=0,\\
&\frac{(n-2)(n+1)}{2}x- a_1+(n-1)a_2+ \ldots . +a.n+(n+1)e_1=0,\\
&\frac{(n-4)(n+1)}{2}x- a_1-2a_2+(n-2)a_3+ \ldots +a\,n+(n+1)e_2=0, \qquad (5)\\
&\quad . \quad . \quad . \quad . \quad . \quad .\\
&\quad . \quad . \quad . \quad . \quad . \quad .\\
&\quad . \quad . \quad . \quad . \quad . \quad .\\
&-\frac{n(n+1)}{2}x- a_1-2a_2-3a_3- \ldots . -na.n+(n+1)e.n=0.
\end{aligned}$$

We have now only to suppose the last members of these equations to be accidental errors, and solve by least squares. This solution gives for the equation in x,

$$\frac{n(n+1)(n+2)}{6}x+na_1+2(n-1)a_2+3(n-2)a_3+ \ldots . +na.n=0.$$

Having thus obtained the value of x, the quantities e_1-e_0, e_2-e_1, &c., are immediately formed from equations (1.) Thus, when we have e_0, the other e's are formed in succession by the adding on of successive differences. The value of e_0 may be obtained from the equation

$$(n+1)e_0+n(e_1-e_0)+(n-1)(e_2-e_1) \ldots +e.n-e.n_1=0,$$

formed by multiplying the first member of (1) by n, the second by $n-1$, &c., and adding with reference to (4.) But the most ready way of obtaining all the e's is perhaps by forming them from $e_0=0$, and then subtracting from each of them the mean value of the e's thus obtained.

If one of the e's is known by the methods already explained, the values of the differences e_0-e_1, &c., will not be changed, and the values of all the other errors may be found by addition of the differences to this known value.

PART III.

DETERMINATION OF THE CONSTANTS OF THE TRANSIT CIRCLE AND ITS SUBSIDIARY APPARATUS.

(52) *Value of one division of the Spirit Levels.*—It will be remembered that there are three levels—one striding level for each collimator, and a hanging level for the axis of the instrument. The former are distinguished by the letters A and B.

1865, October 18. The old mural circle was turned until the telescope was horizontal, and the collimator levels were set astride of the telescope. Microscopes A and B of the circle, and the two ends of the bubble of the level, were then read in different positions of the telescope, as follows:

	Mic. A.	Mic. B.	Level A.		Level B.	
			S. end.	N. end.	S. end.	N. end.
	′ ″	″	*d.*	*d.*	*d.*	*d.*
	57 67.9	70.8	18.4	42.3	18.5	38.3
	54.2	56.4	1.1	25.2	1.6	21.5
	75.2	77.9	27.6	51.3	27.5	47.3
	54.4	57.1	2.3	26.2	3.0	22.8
	75.1	77.5	26.6	50.5	26.4	46.2
	65.2	67.8	15.0	39.1	16.4	36.2
Levels reversed	54.1	56.8	44.5	25.5	41.0	21.2
	60.9	63.4	36.5	12.5	34.1	14.2
	49.7	52.8	50.0	26.1	46.0	26.2
	71.0	73.8	23.2	— 0.6	21.4	1.6
	50.2	52.8	49.6	25.5	45.8	26.0
	68.8	71.2	26.7	2.5	24.3	4.6
	59.9	62.7	37.2	13.4	34.0	14.2

Temperature 57°.

From the observations is concluded—

One division of level A=0″.826.

One division of level B=0″.850.

The level error of the collimators being kept quite small, rarely so great as 3″, the value of one division,

0″.84,

has been adopted for both levels.

1865, November 21. The hanging level was suspended from the telescope of the Mural Circle, and the following readings taken:

Mic. A.	Mic. B.	Level.		
		N. end.	S. end.	
"	"	*d.*	*d.*	
16.8	21.1	32.7	84.5	
26.9	31.2	20.5	72.3	
40.3	45.1	5.2	57.2	
14.9	19.4	34.4	86.3	
41.5	46.1	4.0	55.9	
35.7	40.6	10.2	61.1	62.1(?)
30.2	35.2	16.4	68.3	
24.2	29.0	22.8	74.9	
18.6	23.8	29.2	81.2	
13.2	17.8	36.2	88.2	
42.9	47.7	2.0	54.1	

Temperature 53°. From which is concluded

One division = 0″.872 = 0*s*.058.

The three readings preceding the last seem to indicate a diminution of the value as we approach the end of the scale, but the diminution is no greater than what may be due to errors of the microscopes.

(53) *Difference of collars of collimators.*—It is requisite that we know the difference between the true level of the axis of the collimator and the readings of the spirit level set upon the collars on which the collimators turn. This is effected by reading the level when the collimator is in its regular position, and when reversed, end for end, around a vertical axis, the operation being repeated a number of times in succession to eliminate the possible changes of level during the operation.

The following are the level indications of the two collimators in different angles of position. The angle of position of the collimator indicates its position as it is turned upon its Ys, without being raised from them. They are used only in those four positions in which one of the wires is horizontal; and, in practice, the positions are almost entirely confined to two, which are designated as 0° and 180°. The angle is measured by the position of the clamp which binds the eye-piece, being called 0° when this clamp points horizontally to the right of an observer looking into the eye end of the collimator, and 90° when it points upward.

The collimator is said to be direct when the collimator points toward the Transit Circle; reverse when it points from it. The level readings are positive when the pivot farthest from the Transit Circle is too high.

COLLIMATOR A.

First series.—Position changed from 0° to 180°, and the collimator reversed alternately one pair level readings between each change.

	Position 0°.		Position 180°.	
	Direct.	Reverse.	Direct.	Reverse.
	d.	*d.*	*d.*	*d.*
Level A . .	+ 3.84 + 2.91	+ 1.35	+ 3.71 + 2.50	+ 1.26
Level B . .	− 0.45 + 0.62	− 0.78 − 0.98	+ 1.02 + 0.55	− 0.90 − 1.08
		d.		*d.*
Mean, D−R.		+1.32		+1.80.

Second series.—Position 0°.

Direct.	Reverse.
d.	*d.*
+0.81	−1.24
+0.32	−0.94
−0.24	−1.42
0.00	
	d.
Mean, D−R.	+1.42.

Third series.—Position 180°.

d.	*d.*
−0.18	−0.95
+0.36	−1.65
−0.39	−0.89
	d.
Mean, D−R.	+1.09

The concluded correction for difference of collars, when in the position 0° or 180°, is one-fourth D—R, or 0″.29, the eye-pivot being too large.

Two similar, but more accordant, series gave for the correction to position 90°—270° 0″.09, so that the collars are not perfectly cylindrical.

COLLIMATOR B.

The determinations have been made only for the positions 0° and 180°. The results are

		d.
D−R for	0°,	+1.06
for	180°,	+0.55

Concluded correction, 0″.17, the eye collar being too large, as in the other collimator.

The collars are decidedly conical, diminishing toward the ends of the telescope, so that entire dependance cannot be placed on the absolute horizontal point obtained from a single collimator. But, by interchanging the collimators, this error is completely eliminated from the zenith point.

(54) *Periodic Inequalities of the Micrometer Screws.*—In the case of the eight microscope micrometers the inequalities were determined by measuring the intervals between the parallel wires of each pair with different portions of the screw. The circle being clamped and properly set, one of the micrometer wires was brought to a distance from the edge of a division approximately equal to the thickness of the wire. The observer retained a quite accurate idea of the intervening space, though the idea could not be defined in language. The micrometer was then read. The other wire was then brought into the same position, and the micrometer was again read. The operation was twice repeated, making three measures in all. The circle was then moved forward 5″ by the tangent screw, and a similar series of measures again taken. The operation was continued through the two revolutions of the screw most used.

Repeated trials showed that the wires could be set more accurately in position by this method than by making them coincide with the circle division, the probable error of a single setting being about 0″.10, scarcely greater than that in putting the division midway between the wires.

The results of a determination made in November, 1865, were:

For microscopes I, II, III, inequality insensible;

IV. Ineq. $= -0''.53 \cos u + 0''.57 \sin u + 0''.13 \cos 2u - 0''.11 \sin 2u$;

V. $-0\ .09 \cos u + 0\ .02 \sin u$;

VI. $+0\ .24 \cos u + 0\ .28 \sin u$;

VII. $-0\ .06 \cos u + 0\ .06 \sin u$;

VIII. $+0\ .06 \cos u + 0\ .27 \sin u$;

u being the angle of the reading of the head.

Microscopes V–VIII being alone employed in astronomical operations, their inequalities were redetermined in March, 1866, with the following result:

$$\text{V.} \quad -0''.05 \cos u + 0''.05 \sin u;$$
$$\text{VI.} \quad +0\ .24 \cos u + 0\ .25 \sin u;$$
$$\text{VII.} \quad -0\ .07 \cos u + 0\ .08 \sin u;$$
$$\text{VIII.} \quad +0\ .11 \cos u + 0\ .25 \sin u.$$

The mean of the two results is adopted as the correction for the year 1866.

(55) A rough check upon the general accuracy of the screws is given by the mean distance of the wires as measured in different revolutions of the screw. The following are the distances given by the same measures which determine the inequalities:

	1865.		1866.		Difference.	
	29 rev.	30 rev.	29 rev.	30 rev.	1865.	1866.
	"	"	"	"	"	"
Mic. V	10.98	11.05	10.80	10.91	+ 0.07	+ 0.11
Mic. VI	10.88	10.82	10.80	10.95	— 0.06	+ 0.15
Mic. VII	10.53	10.47	11.85	11.75	— 0.06	— 0.10
Mic. VIII	10.88	10.87	10.74	10.92	— 0.01	+ 0.18

The method of observing is such that the microscope micrometers are seldom moved through more than a fraction of a revolution. No very accurate investigations have therefore been made to find whether the value of the revolution of any one of them changes progressively; but the measures occasionally made for runs show that the change, if it exists, is entirely inappreciable.

There are, however, outstanding discrepancies, amounting sometimes to three or four tenths of a second, which I have not been able to refer to any law.

(56) *The Declination Micrometer of Telescope.*—Neither the collimators nor the telescope micrometer were originally furnished with double wires; the usual method could not, therefore, be used to determine the inequality of the latter. The plan was, therefore, adopted of measuring successive half revolutions of the telescope micrometer with the microscope micrometers, by setting the wire of the former upon the collimator. The following are the value of eight successive half revolutions, as given by two microscopes of each circle, in one series, and the four microscopes V–VIII in the other:

	First series.				
	Mic. I.	Mic. III.	Mic. VI.	Mic. VIII.	Mean.
r. r.	"	"	"	"	"
24.0 — 24.5	7.70	7.61	7.91	8.39	7.90
24.5 — 25.0	7.77	7.76	7.85	7.49	7.72
25.0 — 25.5	7.56	7.37	7.66	7.66	7.56
25.5 — 26.0	7.81	7.41	7.45	7.41	7.52
26.0 — 26.5	7.75	7.85	8.00	8.25	7.96
26.5 — 27.0	7.86	7.51	7.63	7.38	7.60
27.0 — 27.5	7.55	7.65	8.03	7.85	7.77
27.5 — 28.0	7.83	7.63	7.61	7.76	7.71

The mean of the odd measures is 7″.80, and of the even ones, 7″.64.

	Second series.				
	Mic. I.	Mic. III.	Mic. VI.	Mic. VIII.	Mean.
r. r.	"	"	"	"	"
31.25 — 31.75	7.54	7.69	7.51	7.36	7.52
31.75 — 32.25	7.54	7.98	7.73	8.02	7.82
32.25 — 32.75	7.75	7.65	7.86	7.86	7.78
32.75 — 33.25	7.51	7.49	7.24	7.22	7.36
33.25 — 33.75	7.37	7.50	7.64	7.71	7.56
33.75 — 34.25	7.57	7.76	7.66	7.61	7.65
34.25 — 34.75	7.94	7.64	7.75	7.85	7.79
34.75 — 35.25	7.49	7.57	7.62	7.60	7.57

The mean of the odd measure is 7″.66, and of the even ones, 7″.60.

From the differences 0″.16 and 0″.06 of the half revolutions the screw would seem to be affected with the error

$$0''.04 \cos u + 0''.02 \sin u;$$

an error so small that it has been neglected, especially as the screw is used about equally through several revolutions for every class of observations, by which the periodic errors will disappear from the final result of the observations. After double wires were placed in the collimators, measurements of successive half revolutions of the micrometer were made, which gave for the periodic correction,

$$0''.07 \cos u - 0''.05 \sin u.$$

(57) *Value of a Revolution of the Micrometer Screws.*—1866, June 12.—The telescope was set on collimator B. The record does not state whether it was north or south. The microscopes, however, indicate that it was south.

The following readings of the microscopes and zenith distance micrometer were taken successively in different positions of the telescope. Each micrometer reading is the mean of nine; three for coincidence of collimator image with each wire, and three for a position midway between wires:

Minute of circle division.	Readings of microscopes—				Mean.	Corr. for—		Corrected circle reading.	Microm. reading.
	V.	VI.	VII.	VIII.		Ineq.	Div.		
′	r. ″	″	″	″	″			′ ″	r.
56	9 19.5	20.3	21.2	23.7	21.18	— .15	— .04	55 50.99	28.408
54	16.5	18.0	19.2	21.8	18.89	— .14	— .12	53 48.63	20.392
58	21.4	22.8	23.2	26.0	23.35	— .12	+ .16	57 53.39	36.377
54	15.8	17.9	18.9	21.2	18.45	— .14	— .12	53 48.19	20.373
58	21.6	22.8	23.4	25.9	23.43	— .12	+ .16	57 53.47	36.393
56	19.0	20.6	21.4	23.7	21.18	— .15	— .04	55 50.99	28.395

These readings give from 20 r. to 28 r., 1 rev. =15″.286,
28 r. to 36 r., 1 rev. =15 .337.

An increase in the value of a revolution as the turns increase seems to be indicated.

In the great majority of observations the micrometer is used between 26 and 34 revolutions; a determination of the value between those limits was therefore made which gave 15″.296. The value actually adopted was the mean of the two determinations, or 15″.303.

A third determination, made on September 3, 1866, gave

From 26 r. to 34 r., 1 rev. =15″.311;
34 r. to 45 r., 1 rev. =15 .375;

which seems to confirm the suspicion of an increase in the value of a revolution as the screw is advanced.

(58) *Irregularity of the Screw.*—It is desirable to know whether this change in the value of revolution is regularly progressive, or whether it is subject to sudden changes. To learn this, advantage was taken of the fact that the distance of the pair of wires in collimator A, and of the close pair of wires moved by the micrometer, are together nearly equal to a revolution of the latter. Consequently, turning the telescope on that collimator when its double wires are horizontal, we have a measure of a constant space by setting first the upper micrometer wire on the lower image of the collimator wire, and then the lower micrometer wire on the upper image. The measures were commenced, as nearly as practicable, at an even revolution, and therefore ended nearly at the beginning of the next revolution. The measures were made on three different dates, and three measures of each revolution made on each date. But the measures were not always continued through the entire range of the screw. About 30 revolutions they were prevented by the interference of the fixed horizontal wires of the reticule.

Commencement of measure.	End of measure.	Measure.			Residuals of cor. arc.	No. of dates.
		Rev.	Arc.	Cor. arc.		
r.	r.	r.	"	"	"	
17.7	18.7	0.984	15.06	14.97	+ 0.12	1
18.7	19.7	.984	15.06	14.97	+ 0.12	1
19.6	20.6	.972	14.88	14.80	− 0.05	1
20.0	21.0	.986	15.09	15.02	+ 0.17	3
20.5	21.5	.980	15.00	14.93	+ 0.08	4
21.0	22.0	.971	14.86	14.79	− 0.06	4
22.0	23.0	.976	14.94	14.88	+ 0.03	4
23.0	24.0	.972	14.88	14.83	− 0.02	3
24.0	25.0	.973	14.89	14.85	0.00	3
25.0	26.0	.965	14.77	14.73	− 0.12	3
26.0	27.0	.972	14.88	14.85	0.00	3
27.0	28.0	.965	14.77	14.75	− 0.10	3
28.0	20.0	.964	14.76	14.75	− 0.10	3
31.0	32.0	.970	14.85	14.86	+ 0.01	2
32.0	33.0	.968	14.82	14.83	− 0.02	2
33.0	34.0	.975	14.92	14.94	+ 0.09	1
34.0	35.0	.961	14.71	14.74	− 0.11	1
35.0	36.0	.965	14 77	14.81	− 0.04	1
36.0	37.0	.966	14.79	14.83	− 0.02	1

Of the three columns headed "Measure," the first gives the measures in revolutions of a micrometer; in the second these revolutions are turned into arc, using 1 rev.=15″.303; in the third they are corrected for progressive change in the value of the revolution. The residuals show the excesses of the individual corrected measures over the mean value 14″.85. I conceive that they proceed mainly from the accidental errors of reading and temporary derangements of the motion of the screw by dust, displacement of the oil, and other causes, and that the screw itself may be regarded as sensibly regular.

(59) *R. A. Micrometer.*—The value of a revolution of this micrometer seems to be exactly the same as that of the other. Wide measures give 15″.300. Owing to its limited use, no special investigation of its movement has been entered upon.

(60) *Flexure of the Circles.*—The work of determining separately the flexure of the different parts of each circle was commenced in 1866, January 19. But after taking one series of readings, it was found that the axes of several of the microscopes deviated quite sensibly from the perpendicular to the face of the circle; some deviating as much as 40′. To adjust them with entire accuracy appeared to be a difficult and troublesome operation; but a kind of T-square was made by which they could be set without an error exceeding 5′, and they were adjusted by it on April 7. The set of readings previously made were not used.

The following are the details of the operations by which the definitive values of the flexure coefficients were obtained:

In the first series of readings the position of the circles was such that when the telescope pointed to the zenith, the divisions of circle A, which were under microscopes V–VIII, were:

Mic. V, 135°; VI, 225°; VII, 315°; VIII, 45°.

The divisions of circle B, under microscopes I–IV, were:

Mic. I, 315°; II, 45°; III, 135°; IV, 225°.

When the telescope pointed at zenith distance z, the above readings of microscopes V–VIII would be increased, and those of I–IV diminished by z.

The operation was begun on divisions 0°, 90°, 180°, 270°. The division 0° of circle B was brought under microscope I, and the eight microscopes were read, one observer reading each circle. The telescope was then turned 90°, and the microscopes were again read. The telescope was again turned 90°, and the operation of turning and reading continued until the microscopes had been read three times in each of the four positions of the telescope. The mean of the three readings was taken as that corresponding to each position.

The telescope was then set 15° backward from its first position, and the same operation was performed on divisions 75°, 165°, &c., of circle A, and 15°, 105°, &c., of circle B. The operation was repeated through every 15° of the quadrant. The first series was now complete.

In the second series circle A was loosened and turned 180° on its axis, so that when the telescope pointed to the zenith, the division 315° was under microscope V. A series of readings exactly like the first was then made on the two circles.

Circle B was then turned on its axis 180°, and a third series of readings were made.

Finally, circle A was returned to its original position, and a fourth series of readings were made.

The mean of the three readings for each position of the instrument is given in the following table:

SERIES I.

Zenith distance of telescope.	Division under microscope I.	Division under microscope V.	Readings of microscopes.							
			I.	II.	III.	IV.	V.	VI.	VII.	VIII.
°	°	°	"	"	"	"	"	"	"	"
45	270	180	27.90	25.63	4.97	0.67	4.97	7.07	2.87	2.90
135	180	270	27.40	25.60	4.77	29.13	5.33	6.27	0.67	3.37
225	90	0	23.43	23.70	3.73	27.23	5.43	4.63	2.17	5.03
315	0	90	24.37	21.90	3.67	28.50	4.50	6.73	4.57	5.43
30	285	165	26.57	23.67	3.40	28.93	6.23	8.60	4.77	4.37
120	195	255	26.43	25.10	3.83	28.27	6.20	8.00	1.83	4.30
210	105	345	23.47	23.70	4.40	27.00	5.80	4.47	1.63	4.53
300	15	75	22.27	20.13	1.80	27.17	6.10	8.60	5.57	7.13
15	300	150	26.87	24.77	4.57	29.70	4.83	6.83	3.67	3.43
105	210	240	27.33	25.63	4.77	29.40	5.27	7.43	1.67	3.10
195	120	330	24.03	23.63	3.30	27.07	6.00	5.50	1.43	3.80
285	30	60	23.17	21.50	2.47	27.03	5.17	6.77	4.63	5.63
0	315	135	26.57	23.90	4.53	29.27	4.67	7.30	3.93	4.13
90	225	225	27.73	26.90	5.33	0.40	4.67	6.67	1.50	2.37
180	135	315	25.47	24.60	4.70	27.77	4.93	5.07	0.63	3.27
270	45	45	23.30	22.35	2.50	27.75	5.00	6.20	5.20	5.15
345	330	120	25.03	22.43	3.30	28.13	5.23	8.13	4.17	5.60
75	240	210	27.13	26.07	4.70	0.23	5.17	7.00	2.87	2.93
165	150	300	25.37	24.17	4.03	27.47	5.23	6.43	1.03	3.73
255	60	30	22.85	22.60	2.60	27.35	5.45	5.35	2.95	4.80
330	345	105	24.77	21.97	3.10	28.57	5.20	7.70	5.03	5.90
60	255	195	27.43	25.87	4.60	0.03	5.27	7.77	3.30	3.77
150	165	285	26.30	25.57	4.93	28.67	5.40	6.30	0.93	3.50
240	75	15	22.70	22.37	3.13	27.57	5.33	5.77	2.83	5.63

SERIES II.

Zenith distance of telescope.	Division under microscope I.	Division under microscope V.	Readings of microscopes.							
			I.	II.	III.	IV.	V.	VI.	VII.	VIII.
°	°	°	″	″	″	″	″	″	″	″
315	0	270	29.60	28.30	6.70	0.45	4.70	8.40	0.40	29.70
45	270	0	1.70	0.90	7.30	1.50	5.10	5.20	28.75	30.30
135	180	90	26.90	26.65	2.95	26.55	6.05	8.35	3.80	4.55
225	90	180	25.35	26.25	3.45	25.85	5.80	9.55	4.60	2.55
300	15	255	26.70	26.00	4.60	28.73	5.67	9.90	1.83	1.50
30	285	345	0.80	29.23	5.87	0.20	5.73	5.80	29.57	0.87
120	195	75	27.40	27.63	3.00	26.30	5.37	7.60	2.77	4.23
210	105	165	24.73	25.57	3.20	24.77	5.40	9.27	4.53	2.37
285	30	240	24.80	24.23	2.33	25.63	6.17	11.10	3.60	2.13
15	300	330	28.97	27.90	4.67	28.53	6.33	7.53	0.10	0.77
105	210	60	26.70	26.17	2.17	25.63	6.57	7.90	2.60	4.43
195	120	150	22.80	23.37	0.67	22.83	6.57	9.77	5.67	4.20
270	45	225	23.67	23.77	0.66	24.57	7.17	11.93	4.70	2.57
0	315	315	27.77	25.90	3.57	27.03	7.33	9.33	1.47	2.07
90	225	45	26.47	26.73	2.07	25.97	7.20	8.27	2.77	4.07
180	135	135	23.30	23.33	0.63	22.73	7.13	10.53	5.80	5.07
255	60	210	22.73	23.60	0.83	23.83	7.00	10.80	5.60	3.00
345	330	305	26.90	25.13	3.13	26.77	7.10	10.47	1.83	2.03
75	240	30	27.03	27.10	2.97	27.30	6.87	7.20	1.50	2.90
165	150	120	23.20	22.97	0.10	22.40	7.00	10.23	5.37	5.70
240	75	195	22.50	23.10	0.80	23.23	7.23	11.70	6.03	3.93
330	345	285	26.80	25.37	3.22	27.20	7.07	10.43	2.37	1.93
60	255	15	27.47	27.13	3.47	27.33	6.97	7.87	1.33	3.07
150	165	105	24.87	24.10	0.77	23.23	7.27	9.83	5.20	5.83

SERIES III.

135	0	90	26.30	24.80	6.40	27.97	6.57	9.40	4.47	4.93
225	270	180	29.57	27.80	5.77	28.93	6.77	10.37	5.17	3.50
315	180	270	28.77	28.63	5.87	26.50	6.90	10.87	3.37	2.90
45	90	0	25.17	27.80	7.17	25.63	7.20	8.03	1.97	3.20
120	15	75	23.70	23.17	4.97	26.40	7.37	9.97	4.87	5.77
210	285	165	28.40	25.87	4.30	27.70	7.17	10.60	5.73	3.93
300	195	255	28.07	28.03	4.40	25.20	7.10	11.47	3.70	2.97
30	105	345	25.53	27.87	6.97	24.93	7.00	7.47	1.23	2.33
105	30	60	24.23	24.40	5.47	26.10	6.70	8.37	3.10	4.63
195	300	150	27.60	24.97	4.47	27.27	6.83	9.97	5.57	4.27
285	210	240	28.40	27.30	4.40	25.70	6.87	11.67	4.17	2.87
15	120	330	26.17	27.93	6.17	24.80	6.93	8.27	0.93	1.50
90	45	45	23.63	24.80	5.27	26.00	7.53	8.67	3.23	4.60
180	315	135	26.67	23.97	4.53	26.47	7.37	10.87	5.77	5.13
270	225	225	27.63	26.70	3.60	25.87	7.67	12.40	5.20	3.47
0	135	315	25.80	26.87	6.00	24.17	7.70	9.60	1.80	2.63
75	60	30	23.90	25.83	6.00	25.80	7.37	7.40	1.90	3.43
165	330	120	25.80	23.27	5.77	26.23	7.20	10.40	5.30	5.70
255	240	210	27.27	26.27	3.90	26.97	7.30	11.30	5.50	3.30
345	150	300	26.77	26.93	5.70	24.20	7.23	10.67	2.10	2.40
60	75	15	24.37	26.70	6.90	25.90	7.23	7.77	1.47	3.27
150	345	105	25.77	23.80	5.53	27.30	7.23	9.67	5.13	5.27
240	255	195	28.17	26.60	4.53	27.30	7.13	11.40	5.77	4.03
330	165	285	27.50	28.00	5.90	25.27	7.23	10.53	2.63	2.13

SERIES IV.

Zenith distance of telescope.	Division under microscope I.	Division under microscope V.	Readings of the microscopes.							
			I.	II.	III.	IV.	V.	VI.	VII.	VIII.
°	°	°	″	″		″	″	″	″	″
135	0	270	22.87	20.97	3.60	25.50	5.20	8.80	1.10	0.33
225	270	0	26.33	23.63	2.47	26.17	5.87	6.43	29.93	1.87
315	180	90	23.20	22.33	29.87	20.77	5.67	7.97	3.33	4.73
45	90	180	19.40	21.57	1.73	20.17	5.37	8.80	3.83	3.17
120	15	255	21.67	20.90	3.47	25.03	5.13	8.80	1.20	1.70
210	285	345	27.10	23.53	3.17	26.77	5.13	5.33	29.20	0.73
300	195	75	23.80	23.13	0.17	21.23	5.07	7.00	2.17	3.93
30	105	165	20.33	22.37	1.93	19.70	5.20	8.00	3.10	2.07
105	30	240	20.70	20.33	2.40	23.07	5.13	9.37	2.23	2.00
195	300	330	25.80	23.10	2.83	25.80	5.17	6.13	29.33	0.20
285	210	60	24.47	22.93	0.23	21.93	5.20	6.70	1.13	3.20
15	120	150	20.47	22.10	1.30	19.23	5.23	7.37	3.10	2.80
90	45	225	20.43	21.47	1.97	22.83	5.17	8.83	2.17	1.53
180	315	315	25.40	22.50	3.60	25.80	5.30	6.57	29.47	0.67
270	225	45	24.70	23.33	0.60	23.23	5.07	6.50	0.83	2.57
0	135	135	20.53	21.20	0.37	18.60	5.33	8.20	3.33	3.43
75	60	210	19.67	21.30	1.70	21.63	5.20	8.23	2.73	1.80
165	330	300	23.97	21.00	2.80	24.97	5.30	8.03	0.07	1.03
255	240	30	25.13	23.63	1.40	24.73	5.27	5.37	29.90	1.47
345	150	120	21.47	21.37	0.10	18.47	5.13	7.83	2.63	3.90
60	75	195	19.30	21.10	1.97	20.90	5.63	9.17	3.67	2.73
150	345	285	23.60	21.43	2.93	25.60	5.70	8.53	0.83	0.97
240	255	15	25.77	23.63	1.67	24.93	5.60	6.23	0.10	2.07
330	165	105	22.20	22.17	0.17	19.77	5.47	7.80	3.27	4.20

One of the most obvious conclusions, from the above table, is that the two circles do not give the same result for the distance the telescope has moved. If they did, the sum of the eight microscope readings would be constant for each series and each set of circle divisions. In the first set of the first series, for instance, there is a difference of 1″.45 after the circle has been turned 180°. One or both circles are therefore affected with a quite sensible flexure.

The above readings were corrected for inequality of screw, and the flexure coefficients were then computed from the formulæ already given. We give an example of the form of computation adopted, by presenting in full so much of the computation as relates to the four cardinal divisions.

SERIES I.

Z	$Z_0=315°$; $a=90°$ $a'=0°$								2K.15	2K.16	2K.25	2K 26	$8a.a$	$8\beta.a$	$8g.z_0$
	$2\rho.1$	$2\rho.2$	$2\rho.5$	$2\rho.6$	$2\rho.(1+5)$	$2\rho.(1+6)$	$2\rho.(2+5)$	$2\rho.(2+6)$							
°	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
315	28.0	19.9	9.1	12.7	7.1	10.7	29.0	2.6	−1.0	−1.7	−1.2	−1.9	−2.7	−2.2	+ 0.2
45	32.9	26.0	7.8	10.5	10.7	13.4	33.8	6.5	+5.9	+5.9	+5.9	+5.9	−2.3	−1.7	− 0.5
135	32.2	24.3	5.9	10.2	8.1	12.4	30.2	4.5	. .	. .	. .	. .	−1.9	−1.4	+ 0.4
225	27.2	20.3	7.6	10.3	4.8	7.5	27.9	0.6	. .	. .	. .	. .	−2.1	−1.9	− 0.3

SERIES II.

°									2K′.15, etc.				$8a.b$	$8\beta.b$	″
315	36.3	28.4	5.0	8.4	11.3	14.7	3.4	6.8	+1.7	+1.5	+1.1	+0.9	+1.3	−3.2	0.0
45	39.0	32.1	4.8	6.0	13.8	15.0	6.9	8.1	+4.6	+3.7	+5.1	+4.2	+0.8	−2.8	+ 0.9
135	29.8	22.5	9.8	13.4	9.6	13.2	2.3	5.9	. .	. .	. .	. .	+1.7	−0.8	+ 0.6
225	28.8	21.4	10.4	12.5	9.2	11.3	1.8	3.9	. .	. .	. .	. .	+2.2	−1.0	+ 1.5

SERIES III.

Z	$Z_0=315°$; $a=90°$ $a'=0°$								2K″.15, etc.				$8a'.a$	$8\beta'.a$	$8g.(Z_0+90°)$
	$2\rho.1$	$2\rho.2$	$2\rho.5$	$2\rho.6$	$2\rho.(1+5)$	$2\rho.(1+6)$	$2\rho.(2+5)$	$2\rho.(2+6)$							
°	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
315	4.6	24.5	10.3	14.0	14.9	18.6	4.8	8.5	+1.2	+1.2	+1.6	+1.6	−0.3	+10.2	0.0
45	2.3	22.7	9.1	11.7	11.4	14.0	1.8	4.4	−5.9	−5.5	−6.5	−6.1	−2.1	+10.1	+ 0.4
135	2.7	22.2	11.0	14.7	13.7	17.4	3.2	6.9	. .	. .	. .	. .	+0.5	+11.6	− 0.6
225	5.3	26.3	12.0	14.2	17.3	19.5	8.3	10.5	. .	. .	. .	. .	+0.3	+10.3	− 0.2

SERIES IV.

°													$8a'.b$	$8\beta'.b$	
315	23.1	12.6	9.0	13.2	32.1	6.3	21.6	25.8	−0.7	+0.4	−0.5	+0.6	−10.1	−0.7	− 0.6
45	21.1	11.3	9.2	12.4	30.3	3.5	20.5	23.7	−4.2	−4.1	−4.3	−4.2	−10.0	−2.5	− 1.4
135	26.5	15.8	6.3	9.4	32.8	5.9	22.1	25.2	. .	. .	. .	. .	−10.5	−0.5	+ 0.8
225	28.8	19.1	5.7	8.8	34.5	7.6	24.8	27.9	. .	. .	. .	. .	− 9.2	−0.7	0.0

The computation for the other divisions was performed in the same way. The complete results for every 15° are given in the following table, which is so arranged that the two coefficients which correspond to the same position of the circle are under each other. For this purpose some of the angles are changed by 180°, and the signs of the coefficients are changed to correspond.

CIRCLE A.

$a=$	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°
	″	″	″	″	″	″	″	″	″	″	″	″
Values of $8a.a$.....	−1.3	−4.0	−3.8	−0.9	−2.4	−2.7	−2.7	−0.7	−1.2	+0.7	+0.9	+1.5
	−0.8	−3.2	−3.3	−0.8	−2.5	−2.8	−2.3	−2.1	0.0	+1.1	+0.5	+0.8
	−1.7	−3.1	−2.4	−2.9	−3.8	−2.6	−1.9	−1.5	−0.5	−1.2	+1.3	+0.9
	−2.2	−2.8	−2.6	−3.1	−3.3	−2.7	−2.1	−2.1	−1.4	−0.9	+0.8	+1.7
$a.a=$	−0.19	−0.41	−0.38	−0.24	−0.38	−0.34	−0.26	−0.20	−0.10	−0.01	+0.11	+0.15

$a=$	90°	105°	120°	135°	150°	165°	180°	195°	210°	225°	240°	255°
	″	″	″	″	″	″	″	″	″	″	″	″
Values of $8\beta.a$.....	−2.2	−3.1	−3.1	−2.6	−3.3	−3.0	−3.2	−0.5	−0.7	+0.8	+0.6	+2.0
	−1.7	−2.3	−2.6	−2.5	−3.4	−3.1	−2.8	−1.9	+0.5	+1.2	+0.2	+1.3
	−1.4	−3.0	−2.9	−2.8	−4.1	−2.9	−0.8	−1.1	0.0	−0.6	+1.3	+0.6
	−1.9	−2.7	−3.1	−2.9	−3.6	−3.0	−1.0	−1.7	−0.9	−0.3	+0.8	+1.4
$\beta.a=$	−0.22	−0.35	−0.37	−0.34	−0.45	−0.38	−0.24	−0.16	−0.03	+0.03	+0.09	+0.17

CIRCLE B.

$a=$	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°
	″	″	″	″	″	″	″	″	″	″	″	″
Values of $8a'.a$.....	−0.3	−2.2	−4.1	−4.7	−8.4	−9.1	−10.1	−9.7	−8.2	−8.2	−4.8	−2.5
	−2.1	−2.2	−4.8	−6.7	−8.0	−8.8	−10.0	−9.9	−7.9	−7.7	−4.8	−1.8
	+0.5	−2.1	−5.8	−6.7	−7.0	−8.2	−10.5	−9.1	−8.6	−6.3	−5.5	−1.7
	+0.3	−2.1	−5.6	−6.9	−7.8	−8.7	− 9.2	−8.5	−8.6	−6.3	−5.5	−1.2
$a'.a=$	−0.05	−0.27	−0.63	−0.77	−0 98	−1.09	−1.24	−1.16	−1.04	−0.89	−0.64	−0.22

CIRCLE B.—Continued.

$a=$	90°	105°	120°	135°	150°	165°	180°	195°	210°	225°	240°	255°
	"	"	"	"	"	"	"	"	"	"	"	"
Values of $8\beta'.a$.....	−0.7	−1.9	−4.2	−4.1	−8.8	−9.3	−10.2	− 9.5	−8.4	−8.0	−5.1	−2.7
	−2.5	−1.9	−4.9	−6.1	−8.4	−9.0	−10.1	− 9.7	−8.1	−7.5	−5.1	−2.0
	−0.5	−1.8	−5.0	−6.4	−8.1	−8.9	−11.6	−10.4	−8.7	−6.0	−3.8	−2.7
	−0.7	−1.8	−5.1	−6.6	−8.9	−9.4	−10.3	− 9.8	−8.7	−6.0	−3.7	−2.2
$\beta'.a=$	−0.14	−0.23	−0.60	−0.72	−1.07	−1.14	− 1.32	− 1.23	−1.06	−0.86	−0.55	−0.30

(61) It will be remembered that α represents the excess of reading of microscopes V–VII, when a division of circle A is brought under microscope V, and β the excess of VI–VIII, when a division is brought under microscope VI. Also, when the division a is under microscope V, the division $a+90°$ is under microscope VI. The same remarks hold true for circle B, by diminishing the number of the microscope by IV. Now, comparing the values of a with those of β immediately under them, it will be seen that there is generally a quite close agreement, the difference amounting to one-tenth of a second in only one case out of the twenty-four, and the mean difference being less than 0″.05. If we suppose, as seems probable, that these differences are no greater than the unavoidable errors of the determinations, we arrive at the conclusion:

The geometrical form of the circle relative to any system of fixed axes remains invariable as it revolves.

The large values of a and β show that *if the central part of the circle revolves uniformly, the circumference does not revolve uniformly, but is affected with a periodic inequality.*

I am disposed to attribute this singular phenomena to a slight deviation of the centre of gravity of the circle from its centre of figure. The circles weigh about 80 pounds each, and a weight of a few ounces on their circumference is sufficient to produce a flexure of 1″. But to whatever cause we attribute it, the circumstance of invariability of form of the circle involves the law that the flexure shall be of the form of $a \sin z + b \cos z$. If, then, we suppose

$$a = A \sin (D + 45°) + B \cos (D + 45°),$$
$$\beta = A \sin (D - 45°) + B \cos (D - 45°),$$
$$a' = A' \sin (D' + 45°) + B' \cos (D' + 45°),$$
$$\beta' = A' \sin (D' - 45°) + B' \cos (D' - 45°).$$

D being the circle division, we find by equating the preceding values of a and β, and solving by least squares,

$$A = -0''.37; \qquad B = +0''.01;$$
$$A' = -0''.84; \qquad B' = +0''.86.$$

(62) The outstanding apparent errors are seen in the following table, which includes the combined errors of the two hypothesis; first, that the geometrical form of the circle remains invariable, in other words, that

$$a.a = \beta.(a + 90°).$$

Second, that a and β are each of the form,

$$A \sin D + B \cos D.$$

The first column of the table gives the reading of the finding microscope, which, for circle A, is midway between V and VI, and for circle B, midway between I and II.

The second gives the flexure for that position of the circle as computed by the formulæ, which is assumed to be the same for each pair of microscopes.

The third gives the observed flexure of the mean of microscopes VI–VII, or I–III, for that position of the circle, in other words, the value of $a.(R-45°.)$

The fourth gives the observed flexure of the mean of microscopes VI–VIII, or II–IV, for the same position of the circle, or the value of $\beta.(R+45°.)$

The fifth and sixth give the outstanding errors.

R	Flexure by formula.	Observed flexure.		Errors.		R′	Flexure by formula.	Observed flexure.		Errors.	
		V–VII.	VI–VIII.	V–VII.	VI–VIII.			I–III.	II–IV.	I–III.	II–IV.
°	″	″	″	″	″	°	″	″	″	″	″
45	−0.25	−0.19	−0.22	+0.06	+0.03	45	+0.02	−0.05	−0.14	−0.07	−0.16
60	−0.31	−0.41	−0.35	−0.10	−0.04	60	−0.30	−0.27	−0.23	+0.03	+0.07
75	−0.36	−0.38	−0.37	−0.02	−0.01	75	−0.59	−0.63	−0.60	−0.04	−0.01
90	−0.37	−0.24	−0.34	+0.13	+0.03	90	−0.84	−0.77	−0.72	+0.07	+0.12
105	−0.36	−0.38	−0.45	−0.02	−0.09	105	−1.03	−0.98	−0.07	+0.05	+0.04
120	−0.32	−0.34	−0.38	−0.02	−0.06	120	−1.16	−1.09	−1.14	+0.07	+0.02
135	−0.27	−0.28	−0.24	−0.01	+0.03	135	−1.20	−1.24	−1.32	−0.04	−0.12
150	−0.19	−0.20	−0.16	−0.01	+0.03	150	−1.16	−1.16	−1.23	0.00	−0.07
165	−0.11	−0.10	−0.03	+0.01	+0.08	165	−1.05	−1.04	−1.06	+0.01	−0.01
180	−0.01	−0.01	+0.03	0.00	+0.04	180	−0.86	−0.89	−0.86	−0.03	0.00
195	+0.09	+0.11	+0.09	+0.02	0.00	195	−0.61	−0.64	−0.55	−0.03	+0.06
210	+0.18	+0.15	+0.17	−0.03	−0.01	210	−0.32	−0.22	−0.30	+0.10	+0.02
225	+0.25	+0.16	+0.19	−0.09	−0.06	225	−0.02	−0.01	+0.14	+0.01	+0.15

The lower line of the table is, it will be seen, only a repetition of the upper with the sign changed. We always have

$$f.R+f.(R+180°)=0$$

by the fundamental hypothesis of the investigation.

(63) *Values of g z.*—Taking the differences of the K's, we have eight distinct values of 8 $g.z$, the sum of which gives the value of 64 $g.z$, derived from the observation. The mean is as follows:

Z	gz
	″
0	+.01
15	+0.14
30	+0.07
45	−0.02
60	+0.08
75	+0.10
90	+0.06
105	+0.06
120	+0.02
135	−0.04
150	+0.02
165	−0.02

Though these values are quite well marked, indicating a twisting flexure coefficient of 0″.06, I am not at all satisfied of their reality, and have therefore preferred to dispense with their use, and derive the telescope flexure for each end of the axis directly from the observations.

(64) *Flexure of the Telescope.*—The preceding investigation gives the flexure of the circle divisions relatively to the central nucleus of the circle. We next wish to know the flexure of the line joining the micrometer wire, and the optical centre of the object glass relatively to the same nucleus. During the early part of the year 1866, I was greatly troubled by finding a constant difference of a large fraction of a second between the horizontal flexure determined from the opposing and that from the levelled collimators. It seemed to follow from this, that if the axes of the collimators were set optically in the same line, the difference of their level

errors would not be equal to their difference of latitude, as it should be. On April 17, 1866, this was tested directly, in the following way: The error both of level and collimation of each collimator was reduced as much as possible. The telescope was set vertically, the cube opened, and collimator A turned till its double wires were horizontal. The shutters were closed, as usual, in observing the collimators. Three observers were employed; one to read the level of each collimator, and one to make the images of the horizontal wires coincide. The latter looking into collimator B, set the wires opposite in each of the four combinations of position of the collimators, A 90°, B 180°; A 90°, B 0°; A 270°, B 0°; B 180°, and in each combination a set of level readings of each collimator was taken. To eliminate any possible personal error in setting, the observer then went to collimator A, and the operation was repeated. The result was as follows:

Mean level of A, (North,)	0″.87,	(S. end high.)
" " B, (South.)	0 .29,	" "
Difference - - -	+0″.58 S.	
Corr. for diff. of collars,	+0 .26	
Corr. for diff. of latitude,	+0 .25	
Sum - - - - -	1″.09	

This sum ought to be zero, so that there is a seeming discrepancy of 1″.09. That this is due to refraction, I entertain no doubt, for the following reasons: (1.) *A priori;* an increase of temperature amounting to 1° Fahrenheit in two feet, will entirely account for it; and the actual increase from the floor to the roof is found to exceed this on a sunny day. (2.) A few days afterward the observations were partly repeated with the shutters open, and a cold wind blowing through the room. The discrepancy was 0″.61 in the opposite direction. The images were quite unsteady, and the wind troublesome.

(65) The flexure by the opposing collimators was determined by setting the telescope on one collimator, and reading the telescope and microscope micrometers. The telescope was then pointed upward, and the horizontal wires of the other collimator set on those of the first. The circle reading was then determined for the other collimator, and the telescope again pointed to the zenith. The first collimator was then set independently on the second, and the two collimators were thus alternately set and read as often as was deemed advisable. The following are the separate results obtained on different dates:

1865. Dec.	16,	f=+0″.15;	
1866. Mar.	29,	+0 .83,	f'=0″.77;
April	16,	+1 .42,	1 .30;
	26,	+0 .71, wt. =1;	
May	31,	+0 .89, wt. =2;	
June	9,	+0 .49, wt. =1.	

After the first determination the screws of the object end of the telescope tube were tightened. The two next were made without suspecting that the results might be vitiated by refraction, and therefore without attention to the equality of temperature in the different strata of air. They are therefore rejected. The last three were made with the shutters open, at times when the internal and external temperatures were nearly equal. That of May 31 was particularly satisfactory, and depends on four readings of one collimator, and three of the other, the separate readings being

N.	S.
48″.39	50″.77
47 .81	50 .87
48 .12	50 .09
47 .87	

The value of f, concluded from observations of the opposing collimators, is

$$0''.75.$$

In the beginning of 1867 the object glass was taken out and cleaned. Conceiving a change in the elasticity of its bearings possible, a careful determination of f' was made on September 9, 1867. The circumstance taken advantage of to secure equality of temperature was a cold rain. Two thermometers were fastened to the stairway below the line from the object glass of the telescope to each collimator, and two more were suspended just under the roof. The upper pair indicated a higher temperature of 1°.2 before the observations, and 2°.2 afterward. The separate readings uncorrected for circle flexure were:

South coll.	North coll.
R′=90°	R′=270°
14″.69	15″.13
15. 10	15. 18
14. 97	15. 25
15. 43	15. 57
15. 51	

The readings were commenced on the south collimator. On looking into it to set it on the north one, preparatory to its second reading, the mean of wires were seen to differ quite sensibly from coincidence with the wire of the other collimator. The first reading is therefore regarded as doubtful. The result of these readings is

$$f'=+0''.78.$$

During the autumn of 1866 the levelled collimators were regularly observed at night with the shutters open, so that the mean result ought to be free from refraction. The result, from observations made by Messrs. Hall and Rogers and myself, was:

Mean excess of reading for S. collimator,	1″.86;
Uncorrected flexure coefficient - - - -	0 .93;
Correction for difference of latitude - -	−0 .12;
difference of pivots - - -	−0 .23;
circle of flexure - - - - -	−0..37;
Resulting coefficient - - - - - - - -	+0 .21.

o there is a discrepancy of more than half a second between the flexure coefficients found by the two methods. The error is probably in that determined from the levelled collimators, the conical character of their shoulders rendering their results uncertain.

The discrepancy is so great that I think it best to try also the method of comparison of direct and reflection observations.

(66) *Vertical Flexure.*—Thus far, the coefficient of cos Z has been found only by the method already set forth, namely, by comparison of the nadir reading obtained from observations of the collimators, and that obtained directly by coincidence of the wires with their images reflected from mercury. The observations were so conducted as to completely eliminate every constant error of the collimator itself, the following being the usual order:

(1) Nadir;
(2) Collimator B (north);
(3) Collimator A (south);
(4) Collimator B (south);
(5) Collimator A (north);
(6) Nadir.

If, now, either collimator be affected with any constant cause of error when on one side of the instrument, that cause will act in the opposite direction on the circle reading when the collimator is carried to the other side. By interchanging the collimators we therefore eliminate all constant errors peculiar to them.

The following are the separate results obtained in this way:

	C_0	C_0-g	g	*Wt.*	C'_0	C'_0-g'	g'.	*Wt.*
1865.	″	″	″		″	″	″	
Dec. 29	13.22	13.76	—0.54	2	16.35	15.96	+0.39	2
30	28.34	28.44	—0.10	2	23.61	23.61	0.00	2
1866.								
Jan. 30	22.34	22.48	—0.14	3	52.82	52.78	+0.04	3
Apr. 7	24.87	24.96	—0.09	3	14.32	14.28	+0.04	3
16	19.80	20.00	—0.20	3	12.43	12.32	+0.11	3
17	17.62	17.40	+0.22	3	16.50	16.66	—0.16	3
18	11.62	11.88	—0.26	3	16.44	16.17	+0.27	3

From which results

$$g = -0''.14,$$
$$g' = +0''.09.$$

There must always be a possibility of the nadir determinations being affected with undiscoverable sources of error, depending either upon the habits of the observer, or the disturbing conditions to which the instrument may be subjected, as, for example, the heat of the observer's body. I think it best, therefore, to depend for the final value of g upon the comparison of observations made in reversed positions of the instrument, the effect of the cosine flexure being reversed with the instrument. For the present, therefore, the quantity —0″.14 is regarded simply as the reduction of an observed nadir reading of circle A to the mean of the horizontal readings.

(67) In the flexure of the telescope is included the effect of gravity in changing the position of the declination micrometer slide relatively to the fixed plates of the eye-piece. As the telescope turns, the reading of the micrometer for coincidence of the fixed and movable wires is affected with the inequality

$$-0r.0376 \sin Z - 0r.0197 \cos Z,$$

Z being the zenith distance of the telescope counted in such a direction that sin Z is positive when the micrometer head is above the screw, and negative when below it.

The flexures already found being corrected for this inequality, the value of the sine coefficient would be quite small, while that of the cosine coefficient would be increased to 0″.44.

(68) In observing the sun, the aperture of the telescope is diminished to about three inches by means of a cap weighing 5.3 ounces. It is found, by experiment, that this weight causes a flexure of —0″.10 sin Z. A further flexure correction of

$$+0''.10 \sin Z$$

is therefore required in reducing observations of the sun.

ERRORS OF DIVISION.

(69) The readings for errors of division of every 5° were made during November and December, 1865, before the commencement of astronomical observations with the instrument. The observers, beside myself, were Professors Hall and Eastman, and aides Rogers and Thirion. Each observer read two microscopes. Any personal error in reading will appear only in the distance of the microscopes.

A few readings were first taken on the 0° and 90° divisions, with the microscopes 90° apart, to determine their angle. This, however, is of little importance, since any error, in its value, is eliminated in the mean of four microscopes, the number always read in astronomical observation.

To determine the error of every 45°, the microscopes were set 45° apart, and both circles were read thirteen times in each of the eight positions. Assuming the error of 0° to be zero, the following are the resulting values of 4ϵ, or the negative of four times the correction for error of division for every 45°:

	Circle A.	Circle B.
°	"	"
0	0.00	0.00
45	−1.19	−2.87
90	−1.12	−0.80
135	−0.67	−0.59

To find the errors of every 15°, two determinations were made: the first being made with the microscopes 60° apart, the second with the microscopes 75° apart. The circle was read five times in each position in each series. For circle A another and more exact series was made with microscopes 75° apart.

The first series could not give an independent determination of the 45° spaces, but the latter did, and small corrections were applied to them accordingly; not, however, with exact reference to the formulæ for weights already given. The following are the results:

	Circle A.				Circle B.		
	Mic. 60.	75° (1st.)	75° (2d.)	Concluded.	60°.	75°.	Concluded.
°	"	"	"	"	"	"	"
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	− 0.02	− 0.21	− 0.12	− 0.12	− 1.73	− 2.52	− 2.13
30	+ 0.14	+ 0.38	+ 0.36	+ 0.31	− 1.07	− 1.42	− 1.25
45	− 1.19	− 1.37	− 1.11	− 1.19	− 2.93	− 2.93	− 2.93
60	− 2.29	− 2.21	− 2.28	− 2.26	− 3.91	− 3.88	− 3.90
75	− 1.26	− 1.79	− 2.05	− 1.79	− 1.51	− 0.99	− 1.25
90	− 1.12	− 1.13	− 1.12	− 1.12	− 0.80	− 0.80	− 0.80
105	− 0.52	+ 0.03	− 0.02	− 0.13	− 1.11	− 1.07	− 1.09
120	− 1.14	− 2.19	− 1.11	− 1.39	− 1.75	− 2.32	− 2.03
135	− 0.67	− 0.76	− 0.62	− 0.67	− 0.43	− 0.43	− 0.43
150	− 0.60	− 1.43	− 2.22	− 1.62	− 0.94	− 1.43	− 1.18
165	+ 1.15	+ 1.15	+ 0.90	+ 1.02	− 0.13	− 0.25	− 0.19

For the errors of every 5° two series of readings were made; one with a distance of 50°, the other with one of 55°. Three readings were made in each position of the circle in each series, except the second series of circle B, when only two readings were made. The following are the separate results. The last column in each table gives one-fourth the negative of the mean by weights of the two preceding columns, and is the correction to be applied to the mean of opposite microscopes on account of errors of division:

Division.	Circle A.			Circle B		
	50°.	55°.	Concluded $-\epsilon$.	50°.	55°.	Concluded $-\epsilon$.
°	″	″	″	″	″	″
0	0.00	0.00	0.00	0.00	0.00	0.00
5	+ 1.44	+ 0.29	− 0.22	− 0.86	− 1.06	+ 0.24
10	+ 1.55	+ 1.39	+ 0.37	− 0.99	− 0.76	+ 0.22
15	− 0.17	− 0.12	+ 0.04	− 2.08	− 2.13	+ 0.52
20	− 0.93	− 1.10	+ 0.26	− 1.96	− 1.91	+ 0.48
25	− 1.55	− 2.05	+ 0.45	− 1.88	− 2.02	+ 0.48
30	+ 0.34	+ 0.31	− 0.08	− 1.22	− 1.33	+ 0.32
35	− 0.64	− 0.96	+ 0.20	− 2.77	− 3.07	+ 0.72
40	− 1.41	− 0.83	+ 0.28	− 3.19	− 2.62	+ 0.74
45	− 1.19	− 1.19	+ 0.30	− 2.93	− 2.93	+ 0.73
50	− 1.09	− 0.02	+ 0.14	− 3.80	− 3.33	+ 0.90
55	− 1.08	− 2.29	+ 0.42	− 3.35	− 3.44	+ 0.85
60	− 2.22	− 2.18	+ 0.55	− 3.92	− 3.84	+ 0.97
65	− 2.20	− 2.32	+ 0.56	− 3.47	− 4.06	+ 0.93
70	− 0.88	− 0.36	+ 0.16	− 3.22	− 3.93	+ 0.88
75	− 1.79	− 1.70	+ 0.44	− 1.27	− 1.31	+ 0.32
80	+ 1.79	+ 2.25	− 0.51	− 0.18	− 0.96	+ 0.12
85	− 0.66	− 0.38	+ 0.13	+ 0.24	− 0.91	+ 0.06
90	− 1.12	− 1.12	+ 0.28	− 0.80	− 0.80	+ 0.20
95	− 2.05	− 1.78	+ 0.48	− 1.34	− 1.46	+ 0.35
100	− 2.24	− 1.36	+ 0.45	− 1.81	− 0.88	+ 0.36
105	− 0.22	− 0.13	+ 0.04	− 1.06	− 1.04	+ 0.26
110	+ 0.71	+ 0.09	− 0.10	+ 0.28	− 0.29	− 0.01
115	− 1.09	− 1.04	+ 0.27	− 1.32	− 1.30	+ 0.33
120	− 1.51	− 1.43	+ 0.36	− 2.07	− 1.96	+ 0.51
125	− 2.26	− 0.90	+ 0.40	− 1.10	− 1.81	+ 0.34
130	− 1.79	− 2.07	+ 0.48	− 0.84	− 0.78	+ 0.20
135	− 0.63	− 0.67	+ 0.16	− 0.43	− 0.43	+ 0.11
140	+ 1.48	+ 1.51	− 0.37	+ 0.56	− 0.03	− 0.08
145	− 0.27	− 0.08	+ 0.04	− 0.16	+ 0.10	+ 0.02
150	− 1.50	− 1.53	+ 0.38	− 1.30	− 1.21	+ 0.32
155	− 0.40	− 0.44	+ 0.10	− 1.19	− 1.41	+ 0.32
160	+ 1.61	+ 0.97	− 0.32	− 0.22	− 0.44	+ 0.08
165	+ 0.97	+ 1.09	− 0.26	− 0.18	− 0.20	+ 0.05
170	+ 0.89	+ 0.65	− 0.19	− 0.38	− 0.11	+ 0.07
175	+ 0.87	+ 0.51	− 0.17	− 0.28	− 0.78	+ 0.12

We have here two entirely independent determinations of each division error, except those which are multiples of 15°. The mean difference between the two values of 4ϵ is 0″.52 for circle A, and 0″.41 for circle B. The difference of accuracy between the circles arises from differences in the eye-sight of the observers. It appears then that the probable value of a concluded ϵ is about 0″.065 for circle A, and 0″.051 for circle B. The probable error of the mean reading of four microscopes, when these divisions are under them, will therefore be about 0″.046 for circle A, and 0″.036 for circle B, a quantity smaller than the probable accidental error of the isolated divisions. Little advantage would therefore be gained by making the determination more exact.

(70) When the mean of divisions, 90° apart, is taken, the progression of the errors in the case of circle B are so regular that a determination of the intermediate divisions was supposed to be hardly necessary. But, as circle A was used for all the observations in 1866, it was thought desirable to determine at least some intermediate points on that circle. Accordingly, the microscopes of that circle were placed at the distance 43°20′, and one complete series of readings were made, which gave the error of every 10°40′. *The result showed that the errors of the intermediate divisions were systematically greater than those of the* 5° *divisions, the mean difference being* +0″.39.

This was supposed to indicate a cyclical inequality in the error, the period of which was 5°. In order to determine it accurately, it was necessary to determine the error of every degree of both circles. This was done on September 17–19, 1866. The microscopes of each circle were placed at the distance 48°, and the circles were both read once in each position Again the result was anomalous, and the cyclic hypothesis had to be modified or abandoned. The systematic mean difference between the 5° divisions and the intermediate even degrees was only 0″.14 for circle A, and 0″.08 for circle B.

A last attempt to discover the general law of the inequality without the laborious operation of determining the error of every 10′ was made in January, 1867. The 5° interval was divided into six parts by setting the microscopes of circle B 44°10′ apart, and this circle was read once in each position. The cycle now seemed to be reduced to 30′.

To show the nature of the law the correction for the mean of four microscopes, as it resulted from the above determination, is shown for each circle in the following table:

CIRCLE A.

A	Correction for error of division of—						
	A	A+ 1°	A+ 1° 40′	A+ 2°	A+ 3°	A+ 3° 20′	A+ 4°
°							
0	+0.″14	+0.″08	—0.″34	—0.″10	—0.″05	—0.″24	+0.″07
5	+0.13	+0.10	—0.29	—0.33	—0.40	—0.12	—0.22
10	+0.04	—0.24	—0.56	+0.25	—0.22	—0.23	—0.41
15	+0.04	+0.15	+0.02	+0.06	—0.18	—0.12	+0.24
20	+0.08	—0.05	—0.33	+0.14	+0.17	+0.15	+0.15
25	+0.35	—0.17	—0.64	—0.08	—0.16	—0.18	+0.08
30	+0.14	+0.18	—0.14	+0.07	—0.25	—0.08	+0.10
35	+0.30	+0.18	—0.14	+0.24	+0.18	—0.08	+0.10
40	+0.38	+0.26	—0.02	+0.15	+0.35	+0.02	+0.22
45	+0.23	+0.06	—0.44	+0.10	—0.04	—0.24	—0.25
50	—0.12	—0.13	—0.45	+0.02	+0.02	—0.30	+0.18
55	+0.23	+0.04	—0.34	+0.15	+0.12	—0.18	+0.30
60	+0.46	+0.52	—0.07	+0.18	+0.20	+0.10	+0.08
65	+0.33	+0.15	—0.12	+0.26	0.00	+0.04	—0.05
70	—0.08	—0.08	—0.76	—0.18	—0.16	—0.78	—0.16
75	+0.09	—0.20	—0.42	—0.29	—0.44	—0.46	—0.18
80	—0.35	—0.28	—0.56	—0.40	—0.43	—0.42	—0.29
85	—0.02	—0.12	—0.39	—0.28	—0.07	—0.25	+0.35
Mean . .	+0.13	+0.02	—0.33	0.00	—0.08	—0.19	+0.02
M. —0.″13	0.00	—0.15	—0.46	—0.13	—0.21	—0.32	—0.11

CIRCLE B.

A	Correction for error of division of—									
	A	A+ 0° 50′	A+ 1°	A+ 1° 40′	A+ 2°	A+ 2° 30′	A+ 3°	A+ 3° 20′	A+ 4°	A+ 4° 10′
°	″	″	″	″	″	″	″	″	″	″
0	+0.10	—0.29	0.10	—0.05	0.12	—0.09	0.11	—0.05	0.06	—0.28
5	.30	.04	— .01	.21	— .06	.08	.25	— .06	.18	— .01
10	.29	— .09	.14	.00	.16	.26	.37	.24	.04	— .05
15	.39	— .01	.32	.34	.31	.40	.10	.14	.39	.14
20	.24	.22	.22	.10	.20	.31	.28	.34	— .09	.01
25	.40	.20	.24	.06	.22	.25	.52	.34	.15	.04
30	.42	.16	.59	.36	.33	.41	.26	.54	.58	.21
35	.53	.24	.37	.46	.46	.31	.38	.39	.04	.16
40	.47	.20	.47	.30	.40	.61	.45	.52	.43	.11
45	.42	.08	.28	.01	.03	.19	.10	.20	.10	.20
50	.41	.30	.25	.16	.22	.25	.21	.19	.22	.15
55	.44	.18	.39	— .04	.35	.24	.15	.18	.45	.29
60	.64	.68	.82	.51	.56	.64	.42	.54	.30	.26
65	.62	.40	.44	.42	.42	.60	.52	.61	.64	.29
70	.48	.25	.53	.36	.28	.39	.58	.26	.27	.44
75	.18	.20	.42	.05	.22	.09	.26	.11	.25	— .04
80	.10	— .01	— .04	— .08	.40	.20	.15	.22	.22	— .04
85	0.09	—0.42	0.02	—0.28	—0.02	—0.29	—0.05	0.01	—0.16	—0.28
Mean . .	0.″36	0.″13	0.″31	0.″16	0.″26	0.″27	0.″28	0.″26	0.″23	0.″09
M. —0.″36	0.00	—0.23	—0.05	—0.20	—0.10	—0.09	—0.08	—0.10	—0.13	—0.27

The systematic irregularity is well marked in this table, and seems to follow the same law in the two circles, except that it is nearly twice as great for A as for B. Two important questions now present themselves respecting the nature of the law.

1. Do the intermediate errors really depend upon those of the 5° spaces on each side of them more than on any other part of the circle? If not, the attempt to determine the errors with precision might as well be abandoned. Inspection of the above tables, however, shows that for circle B, at least, the question is to be answered in the affirmative; the corrections of the intermediate divisions increase and diminish with those of the 5° ones, and to about the same extent with the latter.

2. Do the systematic errors of the 5° spaces peculiar to them affect them alone, or is the law of error continuous? For example, are the systematic errors of the divisions 4° 58′ and 5° 2′ the same as those of 5°, or are they the same as those of 4° 10′ and 5° 50′? If the former, the spaces on each side of the 5° divisions will be equal; if the latter, they will differ by half a second. Twenty pairs of intervals of circle B—those adjacent to every 15° from 0° to 135°, and from 180° to 315°—were measured and compared, and the mean difference found to be 0″.07. The law of periodic error, whatever it may be, is therefore continuous. It seems to result, in great part at least, from two cycles in the errors of division; the one having a period of 5°, the other a period of 30′.

(71) The course which it seems best to adopt is this: instead of attempting to determine the errors of division with the last degree of precision, we shall seek to eliminate them by changing the position of the circles from year to year, so that the position of any one star will depend on different divisions in different years. If the periodic errors be entirely neglected, the effect of their probable amount, at least in the case of circle B, will be less than 0″.1, and the total probable effect of the difference between the actual and the adopted error of any isolated error of division will not much exceed that amount. The uncertainty of the mean of four divisions will, therefore, scarcely exceed the probable error of the declinations of fundamental stars derived from all the observations hitherto made.

(72) To obtain a general table of the corrections of the divisions, we have first corrected the determinations given in the preceding tables for periodic error, so as to take the mean of the entire degree divisions, those which are a multiple of 5 excepted, as the standard. This has been effected by applying the following corrections to the different vertical columns:

Column.	Circle A.	Circle B.
° ′	″	″
A	−0.14	−0.19
A+0 50		+ .14
A+1	.00	.00
A+1 40	+ .32	+ .11
A+2	.00	.00
A+2 30		.00
A+3	.00	.00
A+3 20	+ .16	.00
A+4	.00	.00
A+4 10		+ .18

The corrections are thus reduced to what they would have been had there been no periodic error, and arranged consecutively in a table. The mean difference between consecutive numbers was now found to be 0″.150 for circle A, and 0″.135 for circle B, indicating a probable error of each individual determination, combined with the accidental error of division, of less than 0″.1.

Table of corrections to mean of four microscopes for errors of division. Argument, reading of horizontal microscope.

Arg.	Circle A.	Circle B.	Arg.	Circle A.	Circle B.
°	"	"	°	"	"
0	+0.12	+0.30	45	+0.02	−0.01
1	+ .06	.23	46	.00	.00
2	.00	.18	47	− .02	.00
3	− .05	.18	48	− .04	.00
4	− .11	.22	49	− .04	+ .06
5	− .17	.27	50	− .04	.12
6	− .10	.27	51	− .08	.12
7	− .02	.26	52	− .22	.12
8	.00	.26	53	− .20	.13
9	+ .04	.27	54	− .16	.14
10	.07	.29	55	− .12	.15
11	.08	.29	56	− .12	.16
12	.10	.29	57	− .12	.17
13	.13	.36	58	− .12	.19
14	.20	.44	59	− .12	.20
15	.28	.52	60	− .05	.22
16	.27	.56	61	+ .05	.26
17	.24	.57	62	.05	.28
18	.23	.57	63	.05	.27
19	.20	.52	64	.02	.25
20	.18	.48	65	.00	.22
21	.17	.49	66	.02	.22
22	.16	.52	67	.09	.22
23	+ .10	.53	68	.15	.22
24	− .02	.50	69	.14	.23
25	− .14	.46	70	+ .08	.24
26	− .18	.44	71	− .03	.25
27	− .22	.42	72	− .12	.27
28	− .24	.40	73	− .12	.28
29	− .20	.34	74	− .05	.31
30	− .16	.27	75	+ .04	.35
31	− .23	.24	76	.04	.40
32	− .29	.22	77	.02	.45
33	− .32	.19	78	.00	.46
34	− .35	.15	79	.01	.45
35	− .37	.11	80	.12	.44
36	− .36	.12	81	.16	.41
37	− .36	.15	82	.17	.38
38	− .36	.14	83	.18	.36
39	− .29	.08	84	.19	.36
40	− .22	+ .02	85	.20	.36
41	− .17	− .07	86	.23	.40
42	− .12	− .12	87	.25	.44
43	− .06	− .13	88	.25	.44
44	− .02	− .07	89	.19	.37
45	+0.02	−0.01	90	+0.12	+0.30

The corrections thus obtained were now made continuous, and the above table was formed in the following way. Represent the correction for $y°$ by (Y). Then, for circle A was taken

$$[1\tfrac{2}{3}]=\tfrac{1}{3}\{(1)+(1\tfrac{2}{3})+(2)\},$$
$$[3\tfrac{1}{3}]=\tfrac{1}{3}\{(3)+(3\tfrac{1}{3})+(4)\},$$
&c., &c.
$$[0]=\tfrac{1}{3}\{[88\tfrac{1}{3}]+(0)+[1\tfrac{2}{3}]\},$$
$$[5]=\tfrac{1}{3}\{[3\tfrac{1}{3}]+(5)+[6\tfrac{2}{3}]\},$$
&c., &c.
$$[2\tfrac{1}{2}]=\tfrac{1}{2}\{(2)+(3)\},$$
$$[7\tfrac{1}{2}]=\tfrac{1}{2}\{(7)+(8)\},$$
&c., &c.
$$[[2\tfrac{1}{2}]]=\tfrac{1}{3}\{[1\tfrac{2}{3}]+[2\tfrac{1}{2}]+[3\tfrac{1}{3}]\},$$
$$[[7\tfrac{1}{2}]]=\tfrac{1}{3}\{[6\tfrac{2}{3}]+[7\tfrac{1}{2}]+[8\tfrac{1}{3}]\},$$
&c &c.

The concluded corrections were then interpolated between [0], [[$2\frac{1}{2}$]], [5], [[$7\frac{1}{2}$]], &c. For circle B was taken

$$[1\tfrac{1}{4}]=\tfrac{1}{4}\{(\tfrac{5}{8})+(1)+(1\tfrac{3}{8})+(2)\},$$
$$[3\tfrac{3}{4}]=\tfrac{1}{4}\{(3)+(3\tfrac{1}{8})+(4)+(4\tfrac{1}{8})\},$$
$$\text{&c.,} \qquad \text{&c.}$$

$$[0]=\tfrac{1}{8}\{[88\tfrac{3}{4}]+(0)+[1\tfrac{1}{4}]\},$$
$$[5]=\tfrac{1}{8}\{[3\tfrac{3}{4}]+(5)+[6\tfrac{1}{4}]\},$$
$$\text{&c.,} \qquad \text{&c.}$$

$$[2\tfrac{1}{2}]=\tfrac{1}{6}\{4[1\tfrac{1}{4}]+(2\tfrac{1}{2})+4[3\tfrac{3}{4}]\},$$
$$[7\tfrac{1}{2}]=\tfrac{1}{6}\{4[6\tfrac{1}{4}]+(7\tfrac{1}{2})+4[8\tfrac{3}{4}]\},$$
$$\text{&c.,} \qquad \text{&c.}$$

The concluded corrections were then interpolated between [0], [$2\frac{1}{2}$], [5], [$7\frac{1}{2}$], &c.

In the table the argument is changed 45°, so as to correspond to the reading of the finding microscope.

ERRORS OF CERTAIN ISOLATED DIVISIONS.

(73) During the year 1866 the circle was so set that when the telescope pointed toward the nadir, the reading of the finding microscope was 359° 56′. It therefore becomes necessary to determine the error of the particular divisions then under the microscopes, relatively to the others. For this purpose microscope VII was furnished by the machinist of the Observatory with two extra pair of spider lines at a distance of, as nearly as possible, 2′ on each side of the central pair. Each division, from 44° 42′ to 45° 8′, was then brought in succession under the middle pair of wires, and at each setting the three pairs were placed in succession over their corresponding divisions. Thus, two measures of each space were obtained. These measures, being treated in the way already set forth, gave the following corrections for each division relatively to the mean of the fourteen divisions from 44° 42′ to 45° 8′, 134° 42′ to 135° 8′, &c.:

Div.	Cor.	Div.	Cor.	Div.	Cor.	Div.	Cor.	Mean
° ′	″	° ′	″	° ′	″	° ′	″	″
44 42	+0.25	134 42	+0.27	224 42	−0.01	314 42	+0.12	+0.16
44	+ .19	44	+ .07	44	− .09	44	− .09	+0.02
46	− .09	46	− .31	46	− .23	46	− .11	−0.18
48	− .05	48	− .01	48	+ .03	48	+ .01	0.00
50	− .05	50	+ .03	50	− .07	50	− .23	−0.08
52	+ .04	52	− .04	52	+ .10	52	+ .22	+0.08
54	− .12	54	− .09	54	.00	54	− .26	−0.12
56	− .05	56	− .13	56	+ .09	56	− .08	−0.04
58	+ .35	58	− .21	58	+ .40	58	+ .09	+0.16
45 0	− .03	135 0	+ .21	225 0	+ .04	315 0	+ .10	+0.08
2	− .02	2	+ .43	2	− .01	2	− .08	+0.08
4	− .25	4	− .03	4	− .11	4	− .14	−0.13
6	− .14	6	− .19	6	+ .04	6	+ .22	−0.02
8	+ .19	8	− .01	8	− .20	8	+0.16	+0.04

TESTS FOR OTHER POSSIBLE ERRORS.

(74) The errors of an instrument may be divided into two classes; those which we expect to find, determine, and allow for in the reduction of observations, and those we expect the

artist to avoid entirely, or at least render insensible. The classification is somewhat arbitrary, depending, as it does, upon the degree of precision sought by the astronomer, and the degree of excellence attained by the artist; yet the custom of astronomers has rendered it quite definite. The errors we have investigated are generally recognized as of the first class; we shall now consider those of the second.

(75) *Irregularity of Pivots.*—No apparatus for determining directly the influence of possible irregularity of pivots upon the axis of rotation was furnished with the instrument, but the artists did furnish an extremely delicate instrument for determining any difference of diameters of the same pivot. It consists of a pair of calipers, which are screwed upon one of the Y bearers, and grasp the horizontal diameter of the pivot. The telescope being turned, any change in the distance of the calipers amounting to the two hundred thousandth of an inch will be rendered sensible by a pair of multiplying levers, the end of the last of which moves over a divided scale. The telescope being turned through an entire revolution with the calipers on one pivot, no difference of diameters so great as this was detected. Only one pivot was thus tested.

As an additional test, the hanging level was placed upon the pivots, and read at every 20° of zenith distance of telescope, from 20° to 160°; the telescope being moved by one of the west handles. It was then returned by the same handle, and the readings repeated. The effect of the pressure of the handle in changing the level of the pivot was quite sensible, amounting to 0″.25; but this effect was reversed by the backward motion, and the extreme range of the mean level reading for different positions of the telescope was 0″.05. It was concluded that the form of the pivots might be regarded as perfect.

(76) Another possible source of irregularities in the motion of the optical axis of the telescope at first caused me considerable solicitude. It has been seen in the description that the fulcrum of the levers of the great counterpoises are not, as I conceive they should be in so large an instrument, knife edges, but pivots. Owing to the unavoidable friction of these pivots, and also to the friction of the end springs, the instrument, when balanced by the counterpoises, will allow changes of weight of perhaps eight or ten pounds without causing motion of the lever. Consequently, the division of the weight between the friction rollers and the pivots will be uncertain to this amount. If, now, there be any irregularity in the grooves of the axis by which the friction rollers act on the instrument, this division may vary in different positions of the instrument, the friction roller acting more powerfully on points more distant from the centre of rotation. And such a change of pressure will produce a vertical flexure of the axis, which will change the direction of the optical axis of the telescope. To avoid any possible error from this source, small pieces of rubber cloth were inserted in the sustaining sockets on the levers, the elasticity of which would take up any minute irregularities of the kind referred to, and make the pressure nearly constant.

To test the effectiveness of this contrivance, a piece of thin paper, probably $\frac{1}{400}$ of an inch thick, was drawn under the friction rollers, and the effect upon the level of the axis and the verticality of the telescope was noted. The former was not changed at all. The latter, which was determined by comparing the position of the vertical middle wire, and its image reflected from mercury, did not admit of exact measurement, as the image was nearly hidden by the wire. Certainly, however, there was no change as great as 0″.3. The paper being many times as thick as any probable irregularity in turning the axis, there is little danger of error from the source in question.

(77) Part of the same general investigation was the determination of the effect on the level of the axis when the action of the counterpoise was changed from its maximum to its minimum amount. One pivot being raised from its Y, by pressing on the counterpoise, was gently let down again, and the level carefully noted. It was then pressed downward by pressing the

counterpoise upward, and the level again noted. The changes of reading varied from 0″.3 to 1″.0. They are, I conceive, almost entirely due to flexure of the Y's under the weights of the pivots.

(78) *Coincidence of the Divided Faces of the Circles with Planes perpendicular to the Axis of Rotation.*—There is no error in this respect which affects the definition of the divisions in the fields of the microscope, and I have made such measures as to satisfy myself that no appreciable error arises from the product tan A δz, p. 11–12.

(79) *General Remark.*—Beside the above systematic examinations, the instrument is from time to time in an irregular way examined for every cause which I can think of, as liable to vitiate the results of observations. Nothing serious has yet been detected.

PART IV.

REMARKS ON THE PERFORMANCE AND USE OF THE TRANSIT CIRCLE.

(80) The general design of the instrument is entirely that of the makers. Specific directions were sent them only on a few minor points, such as the arrangement of the micrometers, the self-registering micrometer head, and the wires of the reticule. It was the opinion of Captain Gilliss, that, considering the reputation and experience of the artists, he would be more likely to secure a good instrument by allowing them to carry out their own views, and holding them responsible for the performance of the instrument, than by designing it himself.

As a general remark, it may be said that the mechanical execution of every part of the instrument is of the first order of excellence. I cannot speak with certainty of the object glass, as it has not been severely tested. Certainly, however, it has no defect which interferes with the performance of the instrument. After being transported by land and water a fourth of the way round the globe, all the delicate and complicated parts of the instrument were put together without impediment or delay, and immediately went into successful operation.

As a knowledge of the defects in design and performance, which we have thus far succeeded in discovering, may be valuable to astronomers, I shall set them forth.

The only defects of design which can yet be pronounced upon with certainty have already been alluded to. They are:

1. Making the zenith distance micrometer carry the slides of the ocular, thus causing the screw to carry too much weight when the head points downwards.

2. The form of the supporting fulcrums of the counterpoise levers.

3. The instability of the collimators and their levels, owing to the small distance (22 inches) between the supporting shoulders. The only inconvenience which results from this construction is the increased labor of levelling the collimator.

(81) *Stability of the Instrument.*—Invariableness of instrumental constants is generally considered one of the most desirable qualities in a meridian instrument. A deficiency in this respect, however, need not vitiate the results of observations, if only the astronomer can determine and apply the constants with a frequency proportioned to the instability of his instrument.

The most precise way to measure and indicate the variableness or uncertainty of the instrumental constants is to take the mean difference between consecutive determinations of the constants. This I have done for the latter part of the year 1866, and the results are given in the following table. During the summer of 1867 the stability of the zenith point has decidedly improved, the mean difference being reduced to 0″.60.

Collimation, October, 1866, to July, 1867	interval 1 week	0″.22
Level, July to November, 1866	interval 1 to 4 days	0″ 57
Level on consecutive days	interval 1 day	0″.29
Mean difference of consecutive transit of Polaris	interval 1 day	3*s*. 2
Resulting mean change of azimuth	interval 1 day	1″. 5
Zenith point	interval 3 to 12 hours	0″. 7
Inclination of E. pier	interval 1 day	0″.65

If ϵ be the mean error of the determination itself, we may expect a mean difference of $\sqrt{2}\epsilon$ owing to that error alone, supposing the instrument to remain invariable. The stability of the line of collimation may therefore be regarded as perfect, and that of the level error practically so, if determined for each day of observation.

It is far otherwise with the zenith point and the azimuth. Not only are they variable to an annoying degree, but the causes of the variations are not definitely determined. Some light may, however, be thrown upon them.

(82) *Zenith Point.*—Previous to any trial of the instrument, its most objectionable feature seemed to be the mode of mounting the microscopes, and many astronomers would have predicted instability from this cause. But the relative positions of the microscopes have proved unexpectedly steady. The following table shows the amount by which the line through the zero of V and VII was in excess of 90° from that through VI and VIII, at various dates between June 29 and September 17, 1866, the longest interval as yet in which the microscopes have been subjected to no disturbance. They are formed by subtracting the mean reading of V and VII for the two collimators, from that of VI and VIII, and are therefore the difference between the nadir points of the circle as given by the two pairs. The dates are taken at random, except with reference to the observer:

Date.	Δ.
	″
1866. June 29,	+0.05;
29 9,	+0.02;
July 2,	−0.12;
..	−0.08;
9,	−0.05:
12,	−0.32;
26,	−0.10;
30,	+0.30;
Aug. 6,	+0.32;
15,	−0.20;
20,	−0 28;
29,	+0.15;
Sept. 3,	−0.15;
10,	+0.12;
14,	−0.15.

I am persuaded that this degree of steadiness has never been exceeded, so that if the central core has been set in the pier in such a way as to secure immobility, the positions of the microscopes relative to the pier will be as invariable in this mounting as in any other.

Passing from the microscopes to the circle—the nicety of fit and firmness of connection of every part, from the divisions of the circle to the ends of the tube of the telescope, is beyond reasonable doubt.

The constancy of position of the optical axis of the tube is rendered highly probable by the steadiness of the error of collimation. Moreover, the object end of the telescope has been subjected to shocks several times greater than it ever receives in ordinary use, without any effect upon the nadir point.

The constancy of the reading of the zenith-distance micrometer head for a given position of the wires is all that could be desired.

(83) Supposing, from these considerations, that the changes observed must be due to movements of the pier itself, a horizontal cylinder was fastened to it in July, admitting of being levelled by one of the collimator levels and the changes in the inclination of the pier thus determined. But the changes of nadir point were still only partially accounted for, and the correct nadir reading sometimes exhibits a progressive change, continuing through a period of several days.

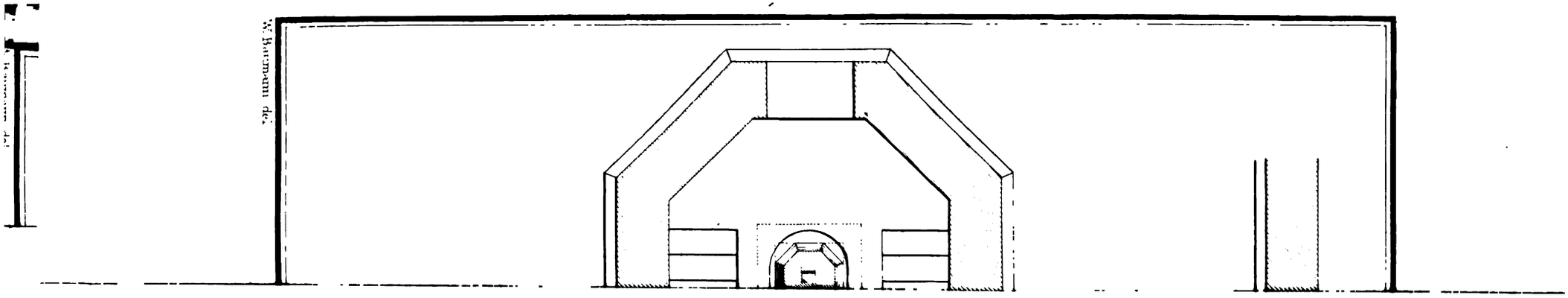
(84) Apparently, the only untested link in the chain is the stability of the setting of the microscope holder (D, plate IV, D–P, plate VI, Fig. 2) into the pier. To insure the solidity of this setting, a hole was cut from the top of the pier to the perforation which received the core of the holder, and the plaster poured in until the hole was full, when it oozed out on all sides of the core. The setting is, therefore, as solid as it can be with plaster. It will, indeed, yield, and allow the microscopes to turn by a strong pressure of the hand; but under pressures several times as great as they are ever subject to in observing, the microscopes are not disturbed at all. Still, considering the known hygrometric qualities of plaster; consi dering, also, that the relative readings of the microscopes on the two piers are subject to changes of the same general character and magnitude with the zenith point, I decidedly think that the greater part of the instability of the zenith point is due to the want of firmness of the plaster setting.

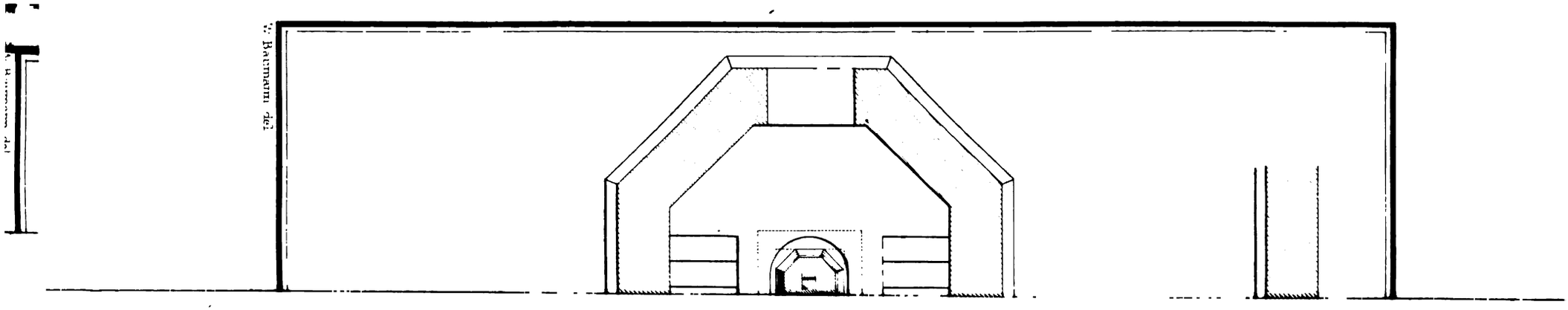
(85) *The Azimuthal Error.*—Of the cause of the variation of azimuth I entertain little doubt. The extreme breadth of the masonry on which the piers are supported is only four and a half feet from north to south. With so narrow a base injurious changes of inclination of the piers, from motion of the ground and consequent tipping of the masonry, seem to me unavoidable. And that such changes do take place is shown conclusively by the levelling apparatus attached to the piers. If every part of the masonry tipped equally, the nadir point alone, and not the azimuth, would be affected. But since the masonry is not perfectly rigid, this condition would be fulfilled only by the ground giving way equally at each end of the pier, which we have no reason to suppose the case. The piers tipping unequally, we may look for changes of azimuth as well as of nadir point. The height of the axis above the centre of the pier being three times the distance of pivots, the change of azimuth from the cause in question will be three times the change of relative inclination of the piers.

(86) In the spring of 1867 a levelling cylinder was attached to the west pier also, and the difference of tipping of the piers compared with the changes of azimuth. The latter were not accounted for, a fact which may be attributable to the imperfections of the apparatus itself.

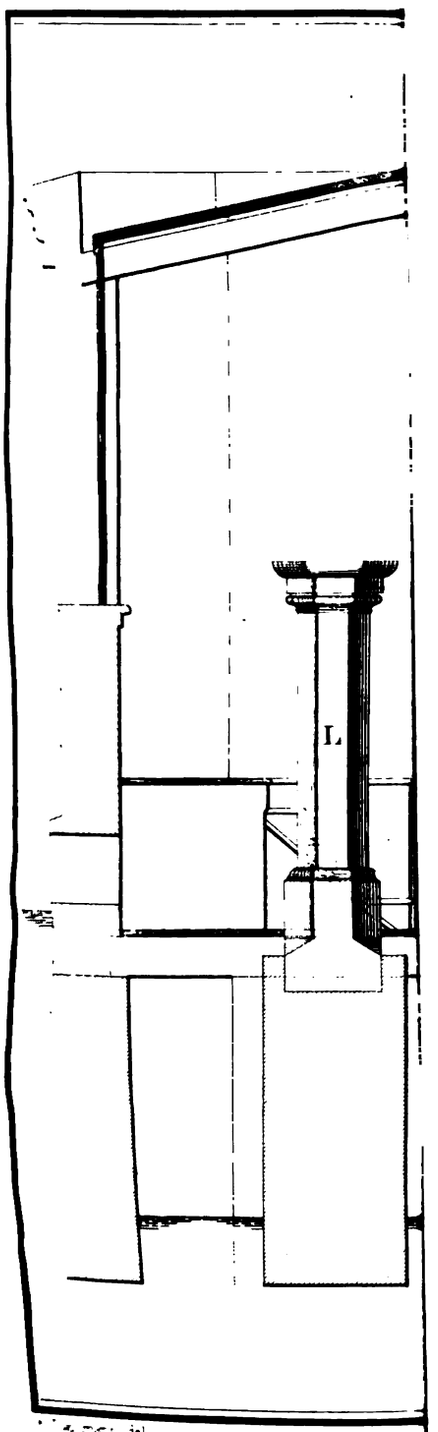
(87) *Dependence of the Collimation Error on Temperature.*—Toward the end of the year 1866 the amount of this error was found to be dependent on the temperature, varying 0″.05 for every degree of Fahrenheit. The cause was discovered when the object glass was taken out at the end of the year. It was then found that the glass was held in its cell by the pressure of three chucks, 120° apart, two of them being fixed, and the third pressed in by a strong spring. The direction of action of the spring was horizontal. Hence, owing to the different expansibilities of the brass and glass, the centre of the latter would take different positions relative to the centre of the former at different temperatures. The calculated change of collimation on the hypothesis of perfect rigidity of both object glass and cell, is 0″.07. The difference between this and the observed change is probably due to the fact that the spring is not perfectly flexible, nor the glass and brass perfectly rigid.

(88) It is probable that such changes will ultimately be made in the mounting of the object glass, the microscope holders, and the great piers as may seem sufficient and necessary to secure greater immobility of the collimation, azimuth, and zenith point, the instability of the two latter arising, as has been seen from defects of mounting rather than of construction.

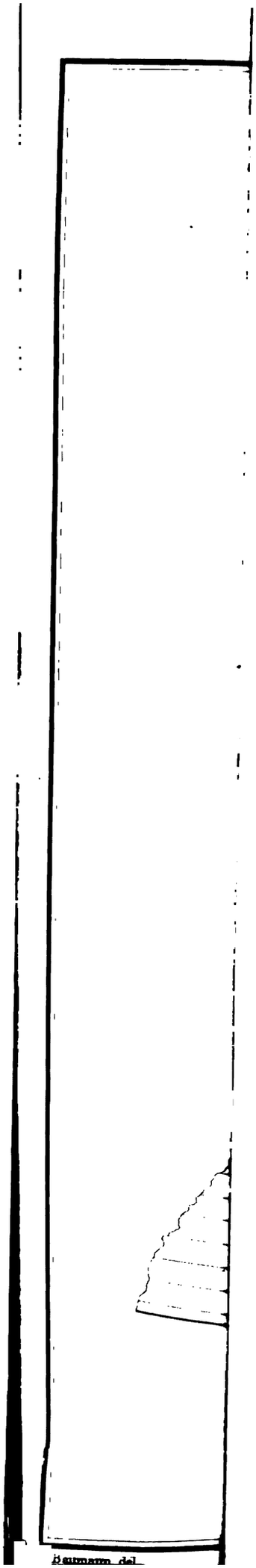


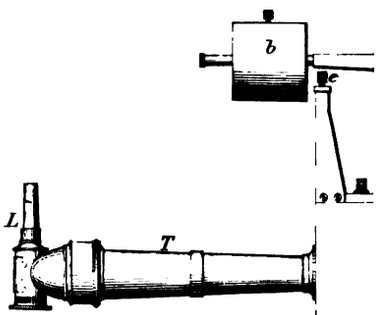


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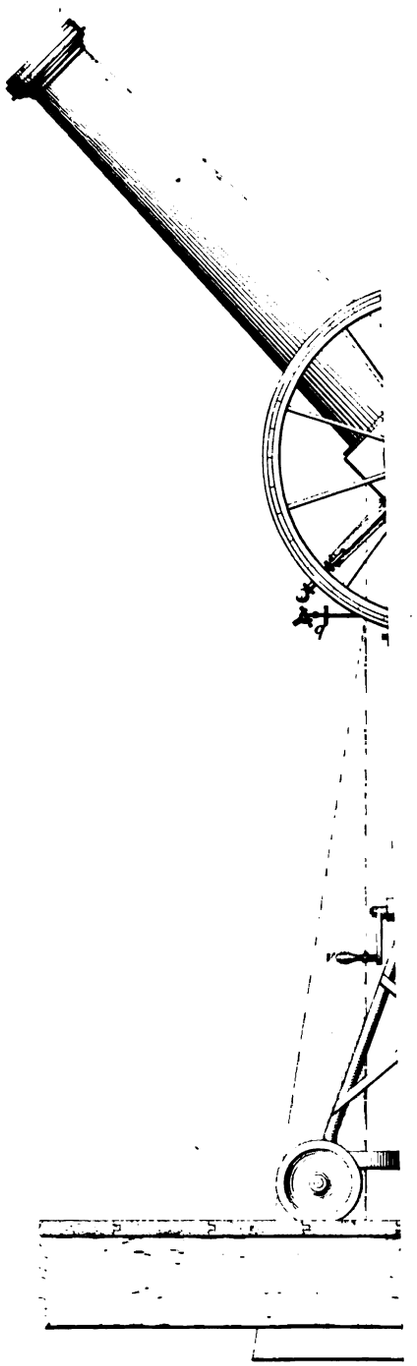


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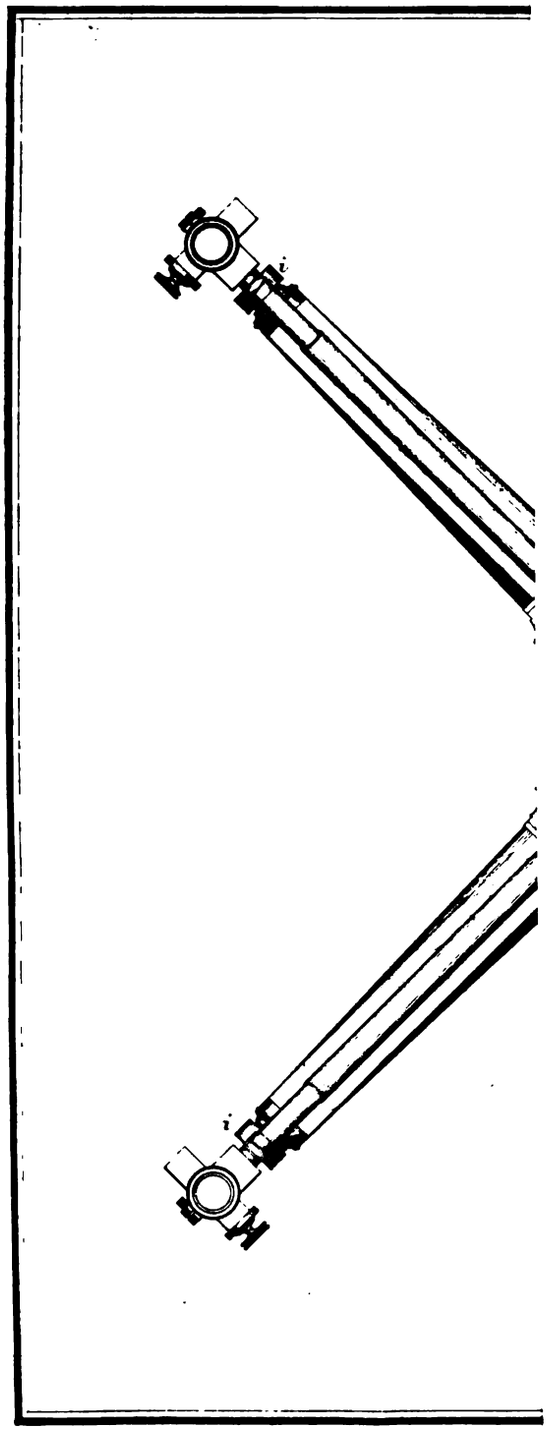

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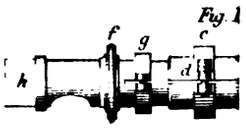
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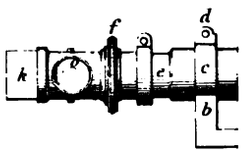


Fig. 7

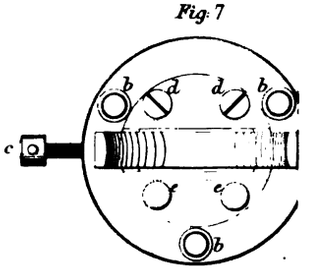
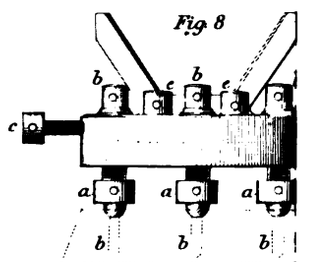
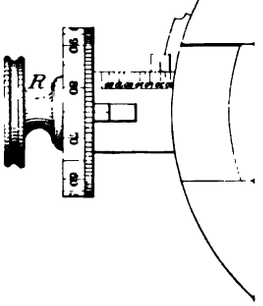
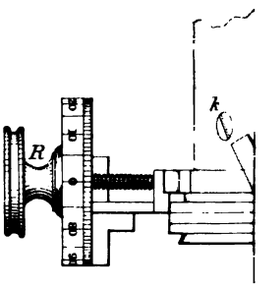


Fig. 8



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APPENDIX II.

INVESTIGATION

OF THE

DISTANCE OF THE SUN

AND OF

THE ELEMENTS WHICH DEPEND UPON IT.

About ten years since, astronomers began to suspect that Encke's value of the Sun's distance, deduced from the transits of Venus in the years 1761 and 1769, was largely in error. The different methods available for its correction all agreed in indicating a diminution of between one twenty-fifth and one-thirtieth of the whole distance. The last doubt of the correctness of the suspicion was removed by the publication of Powalky's paper on the Transit of 1769. In this paper it was shown that, with our more accurate knowledge of the positions of the observing stations, the results of this Transit agreed with those of the modern measures.

The magnitude of the correction being such as seriously to affect the reduction of meridian observations of Mercury, Venus, and Mars, as well as our computations of the mass of the Earth and the parallactic equation of the Moon, it becomes important to determine it with precision, even in advance of the coming transits of Venus. In such a determination the results of all methods which can be relied on, or the precision of which can be estimated, ought, I conceive, to be combined in the final result. Let us, then, glance at the various methods now available.

1. *By Observations of Transits of Venus.*—This method has gone into our school-books as the one superior to all others in the precision of its results. It is true that transits which occurred a century ago, when the art of observation was in its infancy, have furnished the solar parallax which has hitherto been adopted as the standard. It is also possible that, should the civilized world take due interest in the observation of the next two transits, and should circumstances prove favorable, the precision of either result may exceed that of any other one determination. But it is certain that our modern determinations by other methods are more precise than any that can be derived from the past transits of Venus, and opportunities which occur in but one generation of men out of four are too rare to be implicitly relied on in future.

2. *From Observations of Mars when near the Earth.*—Three methods of making these observations have been employed.

a. By nearly simultaneous observations of difference of declination between Mars and a neighboring star, at Observatories situated in different hemispheres of the earth, and by means of Equatorial Telescopes. For the employment of this method the United States Astronomical

Expedition to Chili was organized. It was again proposed by Captain Gilliss, in 1862, and observations in this way were made at Upsala, Leiden, and Washington, in the Northern Hemisphere, and Santiago in the Southern.

β. By similar observations with a Meridian Circle, Mars being compared with a number of pre-selected stars. This is the method proposed by Winneeke, and most extensively carried out in 1862. It was first employed in 1832, between the Observatories of Greenwich, Cambridge, and Altona, in the Northern Hemisphere, and Cape of Good Hope in the Southern. The result was 9″.028,* which it now appears was not only nearer the truth than Encke's value, but was affected with a probable error less than the absolute error of the latter.

As compared with the first, this plan has this advantage: that, comparisons being made with the same stars night after night, there is little danger of observations being lost at one station for want of corresponding ones at another; while, by the other, since the planet must be compared with a different star on every night, they will be lost, unless made on the same night at both stations. The disadvantages are, that the results are affected by the errors arising from erroneous division of the circle, or other causes peculiar to each star, and that the observations cannot be repeated on the same night. The probable magnitude of the first error may be inferred from the results of the investigations of Auwers on the declinations of the fundamental stars, from which it would seem that the probable error arising from these causes is between two and three-tenths of a second. It is, therefore, advisable to compare with as many stars as possible, in order to diminish the chances of error. Inability to repeat the observations will appear a less serious objection, if we reflect that, from some cause or another, micrometric comparisons with an Equatorial do not often exhibit the precision of meridian observations.

On the whole, I conceive that, in a general combination of the principal active Observatories of the world, the micrometric method would be preferable; while, if the number in either hemisphere is limited to one or two, the preference must be given to the Circle observations. The arrangements of 1862 were precisely the reverse of this.

γ. By differences of Right Ascension between Mars and neighboring stars east and west of the Meridian. So far as I am aware, this method was first employed by the Messrs. Bond at the Observatory of Harvard College, during the opposition of 1849–50.† The value then obtained was 8″.605, with a probable error of 0″.4. It was also proposed by the Astronomer Royal, and actually employed at the Royal Observatory, Greenwich, in 1862. The result has not, I believe, been published.

This method has not received the attention it deserves, probably from a general distrust of time observations. If employed at a station of less than forty degrees latitude, with a steady and carefully-adjusted instruument, and if care be taken to eliminate every source of constant personal error, its results might, I conceive, be received with entire confidence. Among the measures necessary to secure a reliable result may be placed the making of the observations on one side of the meridian with an inverting eye-piece, that the apparent direction of motion of the planet may be as nearly as possible the same on both sides of the meridian.

It is possible that observations over the horizontal wires of an Altozimuth might be preferable to that over the right ascension wires of an Equatorial.

3. *From the Observed Parallactic Inequality of the Moon.*—This inequality has the solar parallax as a factor, into which it is multiplied nearly fifteen times. Since astronomers ought to be able to determine the coefficient of this inequality without a probable error of more than a tenth of a second, the solar parallax ought, it would seem, to be determined from it without a probable error exceeding 0″.007, and, therefore, with greater precision than by any other method yet employed. Unfortunately, however, the uncertainty of the observed value of the parallactic inequality still amounts to several tenths of a second, so that there is no hope of attaining this degree of precision.

* Astronomische Nachrichten, No. 262. † Astronomical Journal, No. 103.

4. *By combining the Lunar Inequality in the Motion of the Earth with the known Mass of the Moon.*—By this method was obtained the value of the solar parallax adopted by Le Verrier in his solar tables. Knowing the parallax and mass of the Moon, we can compute the distance of the centre of the Earth from the common centre of gravity of the Earth and Moon, around which the Earth's centre revolves in a lunar month. Also, from observations of the Sun, Venus, or Mars, we can determine the angle which this same distance subtends when seen from the Sun. A comparison of these two data gives the angle which the radius of the Earth itself subtends, as seen from the Sun, or the solar parallax.

This method is the least precise of all, since it gives the solar parallax as the product of two factors, neither of which are determined with great precision. The observed value of the lunar equation must at present depend on observed right ascensions of the Sun, of which the probable error is very large, and the uncertain factor of this element is about one-third greater than unity. Therefore, supposing the mass of the Moon known, the more logical course would seem to be to determine the lunar inequality from the solar parallax.

5. *From Experimental Determinations of the Velocity of Light, combined with the known value of the Aberration of Light.*—Foucault's beautiful experiments with the revolving mirror are so well known that they need not be described. The theoretical objections to this method do not seem to me to have much force, and I see no insuperable reason why its results should not be as reliable as those of any other method. It is quite true that in experiments so delicate, hidden causes of constant error may defy the scrutiny of the experimentalist. It is also true that Foucalt's operations have not been published with that fullness of detail necessary to satisfy astronomers that his results could not have been vitiated by any such cause. But, to test the reliableness of the results, it is, I think, only necessary that the determination should be repeated with apparatus as different as possible from that used by Foucault. Such a repetition is a desideratum both for Physics and Astronomy. A desirable modification of the apparatus would be, if practicable, placing the fixed reflector at a great distance, say 3,000 or 4,000 metres from the revolving mirror.

§ 2.

When the Great Transit Circle was mounted at the Naval Observatory, the question arose whether, in the reduction of observations of the Sun and Planets, it was possible to employ a value of the parallax so near the truth that there would be little danger of future investigators having to correct our results on account of error in the adopted constant of solar parallax. The most promising source of an accurate parallax seemed to be the observations of Mars, made in 1862 on the plan of Winneeke. They formed a better planned, better executed, and more extended series than was ever before available. In the Southern Hemisphere the Observatories of Williamstown, Cape of Good Hope, and Santiago, worked with remarkable success, securing, altogether, observations of Mars and comparison stars on 143 nights. In the Northern Hemisphere the Observatories of Pulkowa, Petersburg, Helsingfors, Vienna, Berlin, Leiden, Greenwich, Albany, and Washington, are known to have co-operated. So extended a co-operative effort on the part of astronomers all over the civilized world has not, I believe, been seen since the transit of Venus in the last century.

Three partial discussions of these observations have appeared.

1. Winnecke, by a comparison of observations at Pulkowa and the Cape of Good Hope, on thirteen corresponding nights, found the solar parallax 8″.964.*

2. Mr. E J. Stone, of the Royal Observatory, Greenwich, discussed the observations of Greenwich, the Cape, and Williamstown, deducing the parrallax 8″.943.†

3. The corresponding observations at Albany, Washington, and Santiago, were discussed by Mr. Ferguson in the Washington Astronomical Observations for 1863, with the following results:

From 12 observations of Washington and Santiago - - - - 8″.834
15 " " Albany - - - - - - - - - - 8″.611

* Astronomische Nachrichten, No. 1409. † Memoirs of the Royal Astronomical Society, Vol. 33, p. 97.

The method adopted by each of these investigators was that of comparison of pairs of corresponding observations made—one in each hemisphere. Many observations at the one station would be lost for want of corresponding observations at the other. Thus, out of a grand total of more than 300 observations, only 26 were employed by Winneeke, 58 by Stone, and 46 by Ferguson. Five of those used by Winneeke and Stone being the same, the sum total used by the three astronomers is only 125. The three results are, therefore, so far from final that a complete discussion is to be desired.

This discussion I have been permitted and enabled to undertake by Rear-Admiral Charles H. Davis, lately Superintendent of the Naval Observatory. At his request, copies of the unpublished observations of Williamstown and the Cape were obtained from Robert J. Ellery, esq., and Sir Thomas Maclear, the directors of those Observatories. The Observatory of Pulkowa, as the originator of the plan, having a prior right to the general discussion, its consent was also obtained through its distinguished director, who communicated the observations of Sawitch and Kreuger, made at Petersburg and Helsingfors.

§ 3.

The following considerations may lead to a method of determining the parallax of Mars from observations, more simple and rigorous than that of corresponding pairs of observations: The perturbations in the motions of the Earth and Mars being perfectly known for the period which we consider, every observation of that planet will lead rigorously to an equation of condition between its parallax, the six elements of its orbit, and the six elements of the Earth's orbit. Thirteen or more observations will, when compared with any theory, suffice, formally, to correct the elements of that theory. But, if the observations extend through only a short interval, say one month, the coefficients of the corrections will be so minute that no trustworthy values of the corrections can be deduced. We shall, in fact, find that our equations will only suffice to determine a few functions of the elements, and that the elements themselves, if their values are only chosen so as to satisfy those functions, may all vary widely, without ceasing to satisfy our equations of condition. If, now, we can fix a *priori* on the entire number of functions of this kind, and use them in lieu of the elements of the Earth and Mars, our equations will be practically as rigorous as if we had introduced the entire number of thirteen unknown quantities.

One of these functions, the first one, indeed, will be the error of declination of Mars, since this will be given by a single pair of observations. But, when there are a series of observations, we may take, instead of the declination, the absolute distance of the planet from the plane of the Earth's equator. This distance, or rather its error, may be developed in powers of the time, and the coefficients of this development may be taken in lieu of the elements. That is, we may assume that the error of tabular declination may be expressed in the form

$$\frac{\text{sec. Dec.}}{\Delta}(\alpha+\beta t+\gamma t^2+\text{ etc.})$$

That this assumption is a safe one in the case of Mars, may be shown by taking the observed tabular errors given by Winneeke in his publication, "Beobachtungen des Mars um die zeit der Opposition, 1862," and developing them in this way. Dividing them into five series, and taking the mean of each series as the error corresponding to the mean of the dates, we have the following five tabular errors, and their products by the distance of Mars from the Earth:

Date.	ϵ	$\epsilon\times\Delta$	Obs.
	"	"	
Aug. 31	4.28	1.96	5
Sept. 17	5.28	2.19	11
30	5.19	2.11	7
Oct. 14	4.55	1.94	4
31	3.53	1.73	2

Developing the last column in powers of the time, and retaining only three terms, we shall find that none of the deviations from the formula will amount to 0″.10. The coefficient of the second power of the time being only 0″.00035, it may, for a period of ten days on each side of any epoch, be neglected without danger of error.

It is to be remarked that, besides those terms divided by Δ in the expression for error of tabular declination, there may be a constant term arising from constant sources of error in the measured polar distances. Putting $\Delta' = \Delta \cos$ Dec. and $\delta\pi =$ correction of parallax, each comparison of an observed and computed declination will give an equation of the form

$$\delta \text{ Dec.} = f\delta\pi + D_0 + \frac{\alpha}{\Delta'} + \frac{\beta t}{\Delta'}.$$

$\delta\pi$, D_0, α, and β being the unknown quantities to be determined.

§ 4.

The following is the list of observations included in the discussion, with the authorities for them:

NORTHERN OBSERVATORIES.

Pulkowa.—Thirty-one observations. Beobachtungen des Mars von Dr. A. Winnecke.

Helsingfors.—Eighteen observations. Beobachtungen des Mars und der Winneckeschen Vergleichsterne. Herbst, 1862, am Reichenbach-Ertelschen Meridiankreise der Sternwarte zu Helsingfors. (Communicated by M. Struve.)

Leiden.—Twenty-nine observations. Astronomische Nachrichten, Band 62.

Greenwich.—Fourteen observations. Greenwich Observations of 1862.

Albany.—Twenty-six observations. Washington Observations of 1863, p. XLIX.

Washington.—Thirty-six observations. Washington Observations of 1862.

SOUTHERN OBSERVATORIES.

Williamstown.—Fifty-one observations. Results communicated by Robert J. Ellery, esq.

Cape of Good Hope.—Forty-three observations. Observations, with their reductions, communicated by Sir Thomas Maclear.

Santiago.—Forty-nine observations. Observaciones Meridianas i Micrométricas relativas al Planeta Marte al Tiempo de su oposicion en 1862, verificadas en el Observatorio Nacional de Santiago de Chile. Santiago, 1863.

This includes the entire list of those accessible observations the weight of which would be such as to sensibly affect the concluded parallax. The entire number is as follows:

In the Northern Hemisphere - - - - - - - - - -	154
In the Southern Hemisphere - - - - - - - - - -	143
Total -	297

In discussing the observations, the first thing to be done is to make them strictly comparable with each other. This is effected by deducing them all differentially from one set of comparison stars. In Winneeke's plan, each observation of Mars can be compared with similar observations of eight stars of comparison. An ephemeris of the positions of these stars being prepared, a comparison of the observed polar distance of any star with the ephemeris gives an apparent correction to the observation. The mean of the eight corrections thus deduced from one night's work, by one observer, is considered a correction applicable to the polar distance of Mars, observed on the same evening.

If every observer observed all eight comparison stars on every night, the adopted mean position of each star would be a matter of entire indifference. But, since a portion of the com-

parison stars were frequently missed, it becomes important that the different stars should be reduced to the same standard. Rigorously, this standard should be, not that of absolute correctness, but that of each particular instrument as affected with its errors of divisions, and corrected for the constant error of the mean of its positions of all eight stars. This standard being unattainable for want of a sufficient number of observations, we shall be obliged to use one uniform set of star places, differing from absolute truth by amounts less than the accidental errors of division of our instruments. The adopted positions will be derived from the observations of Greenwich, Pulkowa, Albany, and Washington. The adopted standard of declination will be that of Auwers, in his paper on the corrections necessary to reduce the different catalogues to a fundamental system. This reduction will be obtained through the Greenwich Transit Circle, the correction of which, near the Equator is $+0''.2$. Comparing the observations of Pulkowa, Washington, and Albany with those of Greenwich, thus corrected, we find the following systematic corrections to reduce them to Auwers:

	"
Pulkowa	+1.2
Albany	+1.6
Washington	−1.5

The mean declinations for 1862.0, thus concluded from the observations of each Observatory, with the seconds of concluded north polar distance for the same epoch, are given in Table I. The positions under the names of the Observatories are not corrected for systematic error. The small figures after each result show the number of observations. The weights are not proportional to the number of observations, but on a somewhat arbitrary scale, depending on the probable errors of divisions, and the discordance of individual observations at the several Observatories. In Table II is given an ephemeris of apparent positions, computed with the constants of the American Ephemeris and Nautical Almanac.

TABLE I.

	Pulkowa.	Greenwich.	Washington.	Albany.	Sec. of mean N. P. D. for 1862.0.
	° ′ ″	″	″	″	″
Lalande 47374	− 3 19 45.1 2	43.1 4	43.4 8	. .	44.15
Lalande 261	+ 0 55 15.6 6	16.8 8	17.9 15	15.8 3	43.21
44 Piscium	+ 1 10 29.4 6	31.0 7	31.9 15	29.2 8	29.32
Lalande 670	+ 4 5 45.5 13	46.8 5	48.3 20	45.1 13	13.24
15 Ceti	− 1 15 47.0 11	47.0 3	44.7 10	48.1 7	46.06
60 Piscium	+ 5 59 12.1 6	12.4 2	14.8 6	11.7 3	46.75
Lalande 1299	+ 4 34 12.7 2	14.0 5	14.8 10	. .	46.32
δ Piscium	+ 6 49 58.8 10	59.7 6	61.8 15	58.5 18	59.89
20 Ceti	− 1 53 40.6 17	39.5 8	38.7 31	40.9 21	39.53
26 Ceti	+ 0 37 33.7 16	34.9 15	36.4 30	33.6 25	25.00
29 Ceti	+ 1 16 14.2 2	15.2 8	16.8 10	. .	44.64
80 Piscium	+ 4 55 6.3 14	6.8 5	9.1 18	6.0 15	52.48
89 Piscium	+ 2 53 11.0 11	12.2 8	14.0 11	11.0 4	47.67
43 Ceti	− 1 10 21.6 10	21.8 1	19.7 11	22.8 6	20.76
Lalande 2614	− 1 6 62.3 6	62.5 4	59.7 6	62.6 2	1.32
μ Piscium	+ 5 25 51.6 16	51.9 7	53.9 19	50.2 8	7.50
ν Piscium	+ 4 47 15.2 10	16.2 13	18.4 15	14.8 16	43.45
Lalande 3298	+ 2 59 42.0 10	43.1 7	45.0 15	41.2 13	16.80
ξ Piscium	+ 2 30 16.6 10	17.7 7	19.6 15	16.3 15	42.08

TABLE II.

Ephemeris of the apparent North Polar distances for transit over the meridian of Washington.

FIRST SERIES.

Date.	δ Pis.	20 Ceti.	26 Ceti.	80 Pis.	μ Pis.	ν Pis.	43298.	ξ Pis.
	"	"	"	"	"	"	"	"
Aug. 20	35.25	12.86	59.22	28.06	43.86	20.06	53.18	18.58
30	33.88	11.87	58.13	26.76	42.59	18.83	52.02	17.44
Sept. 9	32.69	11.17	57.28	25.71	41.55	17.83	51.12	16.55
19	31.77	10.74	56.70	24.91	40.73	17.07	50.45	15.94
29	31.06	10.55	56.37	24.33	40.16	16.55	50.05	15.54

SECOND SERIES.

Date.	Lal. 670.	15 Ceti.	60 Pis.	20 Ceti.	89 Pis.	43 Ceti.	Lal. 2614.	μ Pis.
	"	"	"	"	"	"	"	"
Sept. 19	44.43	17.06	18.47	11.06	20.04	52.79	33.50	40.73
29	43.86	16.82	17.80	10.36	19.60	52.60	33.30	40.16
Oct. 9	43.54	16.83	17.38	9.97	19.40	52.64	33.36	39.81

THIRD SERIES.

Date.	Lal. 261.	44 Pis.	Lal. 670.	15 Ceti.	26 Ceti.	80 Pis.	89 Pis.	43 Ceti.
	"	"	"	"	"	"	"	"
Oct. 9	13.52	59.73	43.54	16.83	56.29	23.99	19.40	52.64
19	13.58	59.78	43.43	17.04	56.44	23.85	19.41	52.92
29	13.88	60.08	43.50	17.47	56.74	23.92	19.64	53.42

FOURTH SERIES.

Date.	L. 43734.	Lal. 261.	44 Pis.	Lal. 670.	Lal. 1299.	20 Ceti.	26 Ceti.	29 Ceti.
	"	"	"	"	"	"	"	"
Oct. 19	15.15	13.58	59.78	43.43	17.82	10.89	56.44	16.45
29	15.62	13.82	60.01	43.50	17.95	11.31	56.74	16.76
Nov. 8	16.21	14.22	60.40	43.74	18.19	11.92	57.21	17.20

The observations being all reduced according to one uniform system, no details need be given except for those cases in which a mode of observation different from that Winneeke has adopted, or in which some of the elements of reduction are doubtful or imperfect.

GREENWICH.

Only a small number of the comparison stars, seldom more than four, were observed on any one evening. Moreover, the same stars were frequently selected night after night, so that the positions of Mars depend mainly on less than half the entire list of stars. The double wire system was not used, but the single wire was placed alternately tangent to the two limbs of the planet. From the discordance of the measured diameters, this method would appear much less accurate than that of double wires.

ALBANY.

Here, also, a single wire was placed alternately tangent to the two limbs of the planet, several contacts with each limb being made. As the fixed wire was used in these measures, and there was not time to read the microscopes for all the contacts, the readings were referred to the microscopes by an apparatus invented by Mitchell, called a Declinometer. This apparatus is described in the publications of the Dudley Observatory, and the mode of using it in the present case, as well as an abstract of the observations, may be found in the volume of Washington Observations for 1863. Owing to the irregularity of this method, I have hesitated to admit its results. But after a careful scrutiny of the observations, and a personal examination of the apparatus, I am unable to see how any source of constant error could have crept in, and have therefore admitted them with a small weight.

WASHINGTON.

During the first series (until September 24) the star observations were irregular, two of the observers placing the star image between the wires, and the third using wire 1 exclusively. The employment of the former system for a limited number of the observations does not seem to be objectionable, since the constant errors to which it is known to be liable may equally affect bisections of a star by a wire. But when the same wire is used for all the comparison stars, and the mean of the two wires for Mars, any error in the adopted distance of the wires will affect all the observations in the same way. This distance being determined from nadir observations, in the manner described in Washington Observations for 1863, p. XXVII, does not seem reliable. It was therefore redetermined in the following way:

1. Reference was made to the original observations for nadir point in 1862, and every result, both for single and double interval of wires during the entire series of parallax observations, was classified according to the observer, and arranged in the order of time.

These results, being supposed affected only with constant personal errors, gave entirely reliable values of the *changes* of distance at those epochs when the wires were disturbed, though none of the absolute distances are considered reliable. It was thus found that the distance of the wires from September 4 to October 2 was greater by $0^r.0070$, or $0''.45$, than from October 7 to November.

2. The absolute distance from October 7 to November was derived from observations of couples of stars made on couples of dates, on which the order of use of wires was reversed. Let D_1 and D_2 be the declinations of a star deduced from observations on two dates with wires 1 and 2, respectively; d_2 and d_1 the declinations of another star, deduced on the same dates with wires 2 and 1. Then, if δ be the correction to the adopted distance of wires, we shall have—

$$\delta = \tfrac{1}{2}(D_1 - D_2 + d_1 - d_2).$$

Thus was found, $\delta = -0''.132$.

Adopted distance, October 7 to November	13.68
True distance	13.55
Correction for September	+ 0.45
True distance for September	14.00
Adopted distance in published reductions	14.02
Error of published reductions	0.02

The correction on account of erroneous half distance, being only a hundredth of a second, has been neglected.

WILLIAMSTOWN.

It is not stated by Mr. Ellery whether a single wire or a pair of wires was used.

The North Polar Distances, as forwarded in manuscript, were not corrected for errors of division. They were, however, accompanied by a table, giving the errors of division for every

degree of zenith distance. Unfortunately, it was not stated either in what direction the zenith distance was counted, or whether the correction was to be applied to the circle reading, which might increase toward the north, or the polar distance, which increased toward the south. In this difficulty, recourse was had to the paper of Mr. Stone, who might be supposed acquainted with the facts, and who published a similar table for every 10°. It was found that he counted the zenith distance toward the north, and applied the corrections in the same direction. To ascertain whether the corrections thus applied were real, the corrections to the adopted places of the stars were deduced from all the Williamstown observations, without applying errors of division, and then the corrections were corrected for errors of division, in order to see whether they were thus diminished. The results were:

Series.	I.	II.	III.	IV.	Sum.
	″	″	″	″	″
Sum of corrections uncorrected . .	2.9	3.7	3.9	3.2	13.7
Sum of corrections corrected . . .	1.1	2.5	1.8	2.9	8.3
Sum of squares uncorrected . . .	1.83	2.41	2.33	1.98	8.55
Sum of squares corrected	0.27	0.95	0.70	1.37	3.29

The improvement is so well marked, the probable error being reduced from 0″.39 to 0″.24, that the correctness of the assumption can hardly be doubted. The errors of division have therefore been thus applied.

SANTIAGO.

The observations appear to have been carefully made throughout. They do not, however, impress one with a high sense of the excellence of the Meridian Circle, or, at least, of the precision with which its microscopes can be read. There is also a weak point in one of the important elements of reduction, namely, the inclination of the declination wires. There are two of these wires, one fixed, the other movable by a micrometer screw. In the Mars observations, the latter was set over or under the fixed wire, at a distance somewhat less than the diameter of Mars, and the observations were then made in strict accordance with Winnecke's programme. The only information respecting the inclination of the wires is in the following words:

"En el campo de vision del anteojo del Circulo Meridiano està estendido un hijo fijo paralelo al camino que recorra una estrella ecuatorial. * * * Por fin, es de advertir que el hilo mòvil no es exactamenta paralelo al hilo fijo. Estando el anteojo dirijido al Norte, la estremidad occidental del hilo mòvil queda encima del hilo fijo, i la inclination de los dos hilas ascienda a 0°7′."

From this it is deducible that the correction to the observed north polar distance, on account of inclination of movable wire, is negative when the observation is made before meridian passage, and positive afterward, and that the amount of the correction is as follows:

Interval from meridian.	Correction.
s.	″
10	0.31
20	0.61
30	0.92
40	1.22
50	1.53
60	1.84
70	2.14

Either the clock time of transit or the vertical wire being given for all extra meridian observations, the polar distances observed with the movable wire were corrected for inclination according to the above table. It was soon seen that the effect of this correction was to produce large discordances in the results for polar point deduced from the several stars, and this effect was so uniform and well marked as to leave little doubt that the correction had no existence in fact.

It was then found that some correspondence had passed between the Superintendent of the Naval Observatory and Mr. Moesta on this very subject, in 1864, the effect of which was to throw darkness on the nature of the inclination correction of the Santiago Circle during this critical period.

I next attempted to determine the inclination from observations of the same star, made on different sides of the meridian. To effect this, a table was drawn up, showing the hour angles of Mars and each of the eight stars, for each of the Santiago observations. It was found that the same star was nearly always observed with great regularity on the same side of the meridian. It was not possible, therefore, to determine the inclination of wires.

The following plan was adopted: In each determination of the polar point, the inclination of the mean of the wires was included as an unknown quantity multiplied by a numerical coefficient, equal to the mean of the hour angles. The correction to the polar distance of Mars was then equal to this unknown quantity, multiplied by the difference of hour angle between Mars and the rest of the stars. The stars whose hour angles were farthest from that of Mars were then rejected in such number that the sum of the coefficients of the inclination should be quite small for each series, and, as nearly as practicable, vanish entirely for the mean of all the observations.

§ 5.

The North Polar Distances of Mars thus deduced from observations, with the resulting equations of condition, are given in Table III.

The first column of this table gives the mean solar date, the day changing between the meridians of Washington and Williamstown.

The third column gives the seconds of North Polar distance of Mars, derived in the way set forth in the last section.

Following these are the multipliers of the equations of condition to reduce them to the same probable error. These multipliers are inversely as the concluded probable errors of the positions of Mars. They are on a scale of 1 to 3 only, as it did not seem worth while to attempt dividing the observations into more than three classes with respect to excellence. The multipliers are assigned by the following considerations:

1. The mean error of an observation at any one Observatory, as deduced from discordance of results for polar points derived from the several stars observed on any one evening.

2. The number of stars on which the polar point depends. The omission of several stars does not, however, seriously diminish the multiplier, unless the same stars are missed night after night, so that the final result of the work with any one instrument will depend on too few stars.

3. The notes of the observers with respect to the quality of the images. The precision of the observations, however, appears to be much less affected by this cause than might be supposed. The greatest extremes of description occur in the Cape observations. Here it is found that the mean discordance on six good nights is $0''.37$; while, on six nights noted as very bad, or deplorably bad, it is $0''.35$. Here, at least, the effects of the cause in question would appear to be entirely masked by those of other causes.

4. The number of observers. There being always a possibility of personal differences in the measures, greater weight should be given to a series made by several than to a similar series made by one observer.

The first consideration was the fundamental one. The mean errors for the different observations were found to be as follows:

	″
Pulkowa	0.31
Helsingfors	0.73
Leiden	0.33
Greenwich	0 53
Albany	0.64
Washington	0.56
Williamstown	0.37
Cape	0.36
Santiago	0.62

The adopted multiplier is supposed to carry the mean error of each equation to about 0.″9.

The next column gives the computed parallax in polar distance for the observation, the adopted constant of Sun's equatorial horizontal parallax being

8″.90.

The following are the adopted co-ordinates of the different observations:

Observatory.	Geocentric latitude.	Log ρ.	Longitude from Pulkowa.	The same in parts of a day.
			h. m. s.	*d.*
Williamstown	— 37 41.0	9.99946	— 7 38 36	— .31830
Pulkowa	59 36.3	9.99890	0 0 0	.00000
Helsingfors	60 0.0	9.99890	+ 0 21 28	+ .01490
Cape	— 33 45.4	9.99955	0 47 23	.03291
Leiden	51 58.3	9.99910	1 43 21	.07177
Greenwich	51 17.4	9.99912	2 1 19	.08425
Santiago	— 33 16.1	9.99956	6 43 51	.28056
Albany	42 28.4	9.99934	6 56 18	.28910
Washington	38 42.5	9.99940	7 9 30	.29827

Next, we have the polar distances of Mars given by the ephemeris. In the adopted method of discussion it is essential that the differences between the ephemeris and the actual position of the planet should vary regularly during each period of twenty days. To insure this, heliocentric ephemerides of the Earth and Mars were computed by Mr. Charles Thirion, aid at the Naval Observatory, for every other day during the parallax observations, using Le Verrier's tables. In the ephemeris of the Earth the planetary perturbations were smoothed off by differences, while the lunar perturbation, instead of being taken from the tables, was rigorously computed from the co-ordinates of the Moon. In the Mars ephemeris the perturbations of each separate planet were mainly developed in powers of the time, to reduce the accidental errors in the last place of decimals, produced by adding so many terms.

Comparing these positions with those of Winneeke's ephemeris, the variations of the differences from the desired law were found to be altogether insignificant, seldom amounting to 0″.02 in longitude, and still less in latitude. I still feared that, as Winnecke used but seven decimals in computing his geocentric plans, the imperfections of the last decimal might have affected his declinations. Differencing his two-day ephemeris, the accidental errors were found not to exceed, on the average, 0″.02, so that their influence would be altogether insensible. His ephemeris was therefore adopted as a basis. From the right ascension observations made at Pulkowa, it appeared that the tabular heliocentric longitude of the planet was too great by about 2″.40.

Supposing, therefore, that the heliocentric longitude required the constant correction —2″.4, the effect of this upon the geocentric north polar distance was computed for every ten days, with the following result:

			″
1862.	August	18,	+2.32;
		28,	2.62;
	September	7,	2.92;
		17,	3.15;
		27,	3.24;
	October	7,	3.16;
		17,	2.93;
		27,	2.60;
	November	6,	+2.28.

These corrections being interpolated to every day, and applied to Winnecke's Ephemeris, we have the following ephemeris of the theoretical north polar distances of Mars at transit over the meridian of Pulkowa:

Date.	Apparent north polar distance.	First difference.	Second differ'ce.	Log first difference.	Date.	Apparent north polar distance.	First difference.	Second differ'ce.	Log first difference.
Aug. 20	87 9 48.02	—2 54.58	+15.08	2.24199	Sept. 28	88 1 55.16	+4 7.56	— 1.51	+ .39368
21	87 6 53.44	2 39.50	15.10	.20276	29	88 6 2.72	4 6.05	2.41	.39102
22	87 4 13.94	2 24.40	15.15	2.15956	30	88 10 8.77	4 3.64	3.28	.38675
23	87 1 49.54	2 9.25	15.15	.11143	Oct. 1	88 14 12.41	4 0.36	4.17	.38086
24	86 59 40.29	1 54.10	15.13	2.05729	2	88 18 12.77	3 56.19	5.05	.37326
25	86 57 46.19	1 38.97	15.12	1.99550	3	88 22 8.96	3 51.14	5.87	.36388
26	86 56 7.22	1 23.85	15.03	1.92350	4	88 26 0.10	3 45.27	6.64	.35270
27	86 54 43.37	1 8.82	14.96	1.83771	5	88 29 45.37	3 38.63	7.47	.33971
28	86 53 34.55	0 53.86	14.83	1.73127	6	88 33 24.00	3 31.16	8.24	.32461
29	86 52 40.69	0 39.03	14.71	1.59140	7	88 36 55.16	3 22.92	8.99	.30733
30	86 52 1.66	0 24.32	14.58	1.38596	8	88 40 18.08	3 13.93	9.76	.28764
31	86 51 37.34	—0 9.74	14.49	—0.98856	9	88 43 32.01	3 4.17	10.41	.26522
Sept. 1	86 51 27.60	+0 4.75	14.31	+0.67669	10	88 46 36.18	2 53.74	11.10	.23990
2	86 51 32.35	0 19.06	14.18	1.28012	11	88 49 29.92	2 42.64	11.77	.21123
3	86 51 51.41	0 33.24	14.03	1.52166	12	88 52 12.56	2 30.87	12.43	.17860
4	86 52 24.65	0 47.27	13.90	1.67459	13	88 54 43.43	2 18.44	12.98	.14126
5	86 53 11.92	1 1.17	13.67	1.78654	14	88 57 1.87	2 5.46	13.57	2.09851
6	86 54 13.09	1 14.84	13.46	1.87413	15	88 59 7.33	1 51.89	14.09	2.04879
7	86 55 27.93	1 28.30	13.18	1.94596	16	89 0 59.22	1 37.80	14.57	1.99034
8	86 56 56.23	1 41.48	12.93	2.00638	17	89 2 37.02	1 23.23	15.03	1.92028
9	86 58 37.71	1 54.41	12.60	2.05846	18	89 4 0.25	1 8.20	15.45	1.83378
10	87 0 32.12	2 7.01	12.25	2.10384	19	89 5 8.45	0 52.75	15.84	1.72222
11	87 2 39.13	2 19.26	11.82	2.14383	20	89 6 1.20	0 36.91	16.21	1.56714
12	87 4 58.39	2 31.08	10.39	2.17921	21	89 6 38.11	0 20.70	16.49	1.31597
13	87 7 29.47	2 42.47	10.88	2.21077	22	89 6 58.81	+0 4.21	16.72	0.62428
14	87 10 11.94	2 53.35	10.38	2.23892	23	89 7 3.02	—0 12.51	16.91	1.09726
15	87 13 5.29	3 3.73	9.73	2.26418	24	89 6 50.51	0 29.42	17.03	1.46864
16	87 16 9.02	3 13.46	9.07	2.28659	25	89 6 21.09	0 46.45	17.09	1.66699
17	87 19 22.48	3 22.53	8.38	2.30649	26	89 5 34.64	1 3.54	17.13	1.80305
18	87 22 45.01	3 30.91	7.66	2.32410	27	89 4 31.10	1 20.67	17.08	1.90671
19	87 26 15.92	3 38.57	6.85	2.33959	28	89 3 10.43	1 37.75	16.98	1.99012
20	87 29 54.49	3 45.42	6.05	2.35299	29	89 1 32.68	1 54.73	16.83	2.05968
21	87 33 39.91	3 51.47	5.15	2.36449	30	88 59 37.95	2 11.56	16.65	2.11912
22	87 37 31.38	3 56.62	4.21	2.37405	31	88 57 26.39	2 28.21	16.56	2.17088
23	87 41 28.00	4 0.83	3.28	2.38171	Nov. 1	88 54 58.18	2 44.77	16.41	2.21688
24	87 45 28.83	4 4.11	2.26	2.38759	2	88 52 13.41	3 1.18	—16.21	2.25811
25	87 49 32.94	4 6.37	1.36	2.39159	3	88 49 12.23	—3 17.39	. .	+2.29533
26	87 53 39.31	4 7.73	+ 0.39	2.39398	4	88 45 54.84			
27	87 57 47.04	+4 8.12	— 0.56	+2.39466					

From the above ephemeris the positions in the sixth column were computed by interpolation, using the adopted longitudes of the Observatories already given.

In forming the equations of condition, the observations are divided into five series. The first two series comprise the observations made with the first group of Winnecke's comparison stars, and the next three those made with the three following groups.

In forming the equations of condition, the errors of the north polar distance of the ephemeris proved to be so minute that the simple error of geocentric declination was introduced into the equations instead of the error of the linear co-ordinate z, which it was intended to use. The three unknown quantities in the equations are as follows:

α, the error of north polar distance at the middle date of each series.

β, the change of α in ten days, supposed constant throughout each series.

π', the error of the Sun's mean equatorial horizontal parallax divided by 0.89.

The general form of the equations of condition is

$$0=\mathrm{P}\left\{\alpha+\frac{t}{10}\beta+\frac{0.89\sin z'}{\Delta}\pi'+\Delta.\mathrm{N.P.D.}\right\}$$

where

P = measure of precision, (column 4.)

t = time in days from the middle of each series.

z' = planet's apparent geocentric zenith distance south.

Δ. = planet's distance from the earth.

Δ.N.P.D. = the computed, minus the observed, geocentric north polar distance.

Comparison of North Polar distances of Mars derived from observation with those given by the Ephemeris, and Equations of condition given by the comparison.

FIRST SERIES.

Date.	Observatory.	Second of observed north polar distance.	Precision.	Comp. parallax.	Sec. of computed geocentric north polar distance.	Equations of condition given by the observations.			
1862.									$''$
Aug. 21	Cape	36.82	3	+ 10.71	47.95	$0=3\alpha_1$	$-3.3\beta_1$	$-3.2\pi'$	+1.3
	Santiago	56.3	1	+ 10.6	7.17	1	−1.1	−1.1	+0.3
	Albany	16.47	1	− 11.39	5.78	1	−1.1	+1.1	+0.7
22	Williamstown	51.22	2	+ 11.73	3.09	2	−2.1	−2.3	+0.3
	Cape	57.92	3	+ 10.81	8.95	3	−3.0	−3.2	+0.7
	Santiago	21.3	2	+ 10.7	30.90	2	−2.0	−2.1	−2.2
23	Williamstown	22.75	2	+ 11.84	33.87	2	−1.9	−2.4	−1.4
	Pulkowa	4.63	3	− 15.21	49.54	3	−2.7	+4.6	+0.4
	Cape	34.10	3	+ 10.91	45.05	3	−2.7	−3.3	+0.1
	Santiago	1.4	2	+ 10.8	11.75	2	−1.8	−2.2	−0.9
24	Williamstown	7.53	2	+ 11.95	19.80	2	−1.7	−2.4	+0.6
	Cape	24.97	3	+ 11.01	36.29	3	−2.4	−3.3	+0.9
	Santiago	55.8	1	+ 10.9	6.75	1	−0.8	−1.1	+0.0
	Albany	15.82	1	− 11.71	5.75	1	−0.8	+1.2	+1.6
25	Williamstown	7.10	2	+ 12.05	20.85	2	−1.5	−2.4	+3.4
	Cape	31.29	3	+ 11.10	42.69	3	−2.1	−3.3	+0.9
	Greenwich	50.33	1	− 13.82	37.27	1	−0.7	+1.4	+0.8
	Santiago	6.2	2	+ 11.0	16.90	2	−1.4	−2.2	−0.6
	Washington	26.08	1	− 10.86	15.09	1	−0.7	+1.1	−0.1
26	Cape	53.12	2	+ 11.20	4.22	2	−1.2	−2.2	−0.2
	Santiago	32.1	2	+ 11.1	42.18	2	−1.2	−2.2	−2.0
27	Williamstown	55.34	2	+ 12.27	8.43	2	−1.1	−2.5	+1.6
	Greenwich	52.25	1	− 14.04	36.99	1	−0.5	+1.4	−1.2
	Santiago	12.3	2	+ 11.2	22.55	2	−1.0	−2.2	−1.9
28	Williamstown	43.20	2	+ 12.37	54.83	2	−0.9	−2.5	−1.5
	Greenwich	45.14	1	− 14.14	29.44	1	−0.4	+1.4	−1.6
	Santiago	5.7	1	+ 11.3	17.94	1	−0.4	−1.1	+0.9
	Washington	26.79	1	− 11.07	16.92	1	−0.4	+1.1	+1.2
29	Williamstown	43.60	2	+ 12.46	56.22	2	−0.7	−2.5	+0.3
	Cape	27.67	2	+ 11.48	39.17	2	−0.6	−2.3	+0.0
	Santiago	18.1	1	+ 11.3	28.25	1	−0.3	−1.1	−1.2
	Albany	39.09	1	− 12.14	27.89	1	−0.3	+1.2	+0.9
30	Williamstown	59.89	2	+ 12.56	12.50	2	−0.5	−2.5	+0.1
31	Williamstown	30.11	1	+ 12.66	43.51	1	−0.1	−1.3	+0.7
	Cape	24.56	2	+ 11.66	36.79	2	−0.2	−2.3	+1.1
	Santiago	21.1	2	+ 11.5	33.14	2	−0.2	−2.3	+1.1
Sept. 1	Pulkowa	43.72	3	− 16.29	27.60	3	0.0	+4.9	+0.5
	Cape	15.66	3	+ 11.75	27.53	3	0.0	−3.5	+0.4
2	Pulkowa	48.83	3	− 16.40	32.35	3	+0.3	+4.9	−0.2
	Cape	21.33	3	+ 11.84	32.75	3	+0.3	−3.6	−1.3
	Albany	48.26	2	− 12.50	36.40	2	+0.2	+2.5	+1.3
	Washington	48.65	2	− 11.48	36.54	2	+0.2	+2.3	−1.3
3	Pulkowa	7.33	3	− 16.51	51.41	3	+0.6	+5.0	+1.8
	Cape	39.93	1	+ 11.92	52.27	1	+0.2	−1.2	+0.4
	Greenwich	8.45	2	− 14.76	53.66	2	+0.4	+3.0	−0.1
	Santiago	47.3	1	+ 11.8	59.32	1	+0.2	−1.2	+0.2
	Albany	11.64	1	− 12.59	59.57	1	+0.2	+1.3	+0.5
	Washington	11.25	2	− 11.56	59.84	2	+0.4	+2.3	+0.3
4	Williamstown	58.28	1	+ 13.03	12.55	1	+0.3	−1.3	+1.2
	Pulkowa	41.30	3	− 16.62	24.65	3	+0.9	+5.0	−0.1
	Cape	13.77	3	+ 12.00	25.98	3	+0.9	−3.6	+0.6
	Santiago	25.7	1	+ 11.9	37.50	1	+0.3	−1.2	−0.1
	Albany	49.09	1	− 12.68	36.88	1	+0 3	+1.3	+0.5
	Washington	47.83	2	− 11.64	37.29	2	+0.6	+2.3	+2.2
5	Williamstown	42.67	1	+ 13.11	55.37	1	+0.4	−1.3	−0.4
	Cape	1.23	2	+ 12.07	13.71	2	+0.8	−2.4	+0.8
	Santiago	16.9	2	+ 11.9	27.69	2	+0.8	−2.4	−2.2
	Albany	40.37	1	− 12.77	28.18	1	+0.4	+1.3	+0.6
	Washington	40.52	2	− 11.72	28.73	2	+0.8	+2.3	−0.1
6	Williamstown	37.37	1	+ 13.19	52.14	1	+0.5	−1.3	+1.6
	Washington	45.28	2	− 11.80	34.01	2	+1.0	+2.4	+1.1
7	Santiago	39.4	2	+ 12.1	51.33	2	+1.2	−2.4	−0.3
	Albany	3.88	1	− 12.94	52.09	$0=1\alpha_1$	$+0.6\beta_1$	$+1.3\pi'$	+1.1

FIRST SERIES—Continued.

Date.	Observatory.	Second of observed north polar distance.	Precision.	Comp. parallax.	Sec. of computed geocentric north polar distance.	Equations of condition given by the observations.			
1862.									
Sept. 8	Williamstown	11.64	1	+ 13.34	26.68	$0=1a_1$	$+0.7\beta_1$	$-4.3\pi'$	$+1''.7$
	Cape	46.66	2	+ 12.28	59.35	2	+1.4	−2.5	+0.8
	Santiago	11.1	1	+ 12.2	23.38	1	+0.7	−1.2	+0.1
	Albany	36.22	1	− 13.02	24.22	1	+0.7	+1.3	+1.0
	Washington	36.17	2	− 11.97	25.14	2	+1.4	+2.4	+1.9
9	Albany	20.05	1	− 13.11	9.47	1	+0.8	+1.3	+2.5
10	Williamstown	40.30	2	+ 13.48	54.31	2	+1.7	−2.7	+1.1
	Pulkowa	49.39	3	− 17.29	32.12	3	+2.7	+5.1	+0.1
	Leiden	55.70	2	− 15.63	40.82	2	+1.8	+3.1	+1.5
	Greenwich	57.65	1	− 15.46	42.35	1	+0.9	+1.5	+0.2
	Albany	20.64	1	− 13.20	7.56	1	+0.9	+1.3	+0.1
11	Williamstown	44.21	2	+ 13.56	57.36	2	+1.9	−2.7	−0.8
	Leiden	3.17	2	− 15.72	48.72	2	+2.0	+3.1	+2.5
	Greenwich	5.46	1	− 15.56	50.40	1	+1.0	+1.6	+0.5
12	Pulkowa	16.15	2	− 17.49	58.39	2	+2.2	+3.5	−0.5
	Helsingfors	17.92	1	− 17.57	0.56	1	+1.1	+1.8	+0.2
	Cape	50.81	3	+ 12.52	3.17	3	+3.3	−3.8	−0.5
	Leiden	24.19	3	− 15.81	8.84	$0=3a_1$	$+3.3\beta_1$	$+4.7\pi'$	+1.4

SECOND SERIES.

Sept. 13	Williamstown	25.97	2	+ 13.68	40.14	$0=2a_2$	$-1.1\beta_2$	$-2,7\pi'$	$+1''.0$
	Pulkowa	47.26	3	− 17.59	29.47	3	−1.5	+5.3	−0.6
	Helsingfors	48.85	2	− 17.67	31.82	2	−1.0	+3.5	+1.3
	Cape	21.02	3	+ 12.57	34.64	3	−1.5	−3.8	+3.2
	Leiden	56.85	3	− 15.90	40.75	3	−1.5	+4.8	−0.6
	Santiago	1.6	1	+ 12.4	13.93	1	−0.5	−1.2	−0.1
	Washington	28.87	2	− 12.34	16.76	2	−1.0	+2.5	+0.5
14	Williamstown	5.38	3	+ 13.74	18.91	3	−1.3	−4.1	−0.6
	Pulkowa	29.96	3	− 17.68	11.94	3	−1.2	+5.3	−1.0
	Leiden	39.78	2	− 15.99	24.02	2	−0.8	+3.2	+0.5
	Santiago	47.0	1	+ 12.5	59.50	1	−0.4	−1.2	+0.0
15	Williamstown	55.20	2	+ 13.79	8.96	2	−0.7	−2.8	−0.1
	Pulkowa	23.36	2	− 17.77	5.29	2	−0.6	+3.5	−0.6
	Leiden	33.97	3	− 16.08	18.14	3	−0.9	+4.8	+0.8
	Washington	12.19	2	− 12.48	59.04	2	−0.6	+2.5	−1.3
16	Williamstown	55.73	3	+ 13.83	9.45	3	−0.7	−4.1	−0.3
	Pulkowa	27.08	4	− 17.86	9.02	3	−0.6	+5.4	−0.6
	Leiden	38.46	3	− 16.16	22.59	3	−0.6	+4.8	+0.9
	Greenwich	40.63	1	− 16.00	24.99	1	−0.2	+1.6	+0.4
	Santiago	50.0	1	+ 12.6	2.35	1	−0.2	−1.3	−0.2
17	Williamstown	6.06	3	+ 13.87	19.88	3	−0.4	−4.1	−0.2
	Pulkowa	40.28	3	− 17.94	22.48	3	−0.3	+5.4	+0.4
	Helsingfors	44.58	1	− 17.98	25.44	1	−0.1	+1.8	−1.2
	Leiden	52.22	1	− 16.24	36.73	1	−0.1	+1.6	+0.8
	Greenwich	55.52	1	− 16.07	39.23	1	−0.1	+1.6	−0.2
	Santiago	5.5	1	+ 12.6	18.42	1	−0.1	−1.3	+0.3
18	Pulkowa	2.44	3	− 18.02	45.01	3	0.0	+5.4	+1.8
	Helsingfors	5.95	1	− 18.03	48.10	1	0.0	+1.8	+0.2
	Cape	39.03	3	+ 12.76	51.82	3	0.0	−3.8	+0.1
	Leiden	16.48	3	− 16.31	59.89	3	0.0	+4.9	−0.8
	Washington	0.30	2	− 12.69	47.08	2	0.0	+2.5	−1.1
19	Williamstown	53.63	3	+ 13.95	7.93	3	+0.2	−4.2	+1.0
	Pulkowa	34.97	3	− 18.09	15.92	3	+0.3	+5.4	−2.9
	Cape	10.16	3	+ 12.78	22.99	3	+0.3	−3.8	+0.2
	Leiden	48.75	1	− 16.38	31.36	1	+0.1	+1.6	−1.0
	Santiago	5.3	1	+ 12.6	16.51	1	+0.1	−1.3	−1.4
20	Leiden	26.66	3	− 16.44	10.46	3	+0.6	+4.9	+0.7
	Santiago	46.1	2	+ 12.7	57.08	2	+0.4	−2.5	−3.4
21	Williamstown	13.94	2	+ 14.00	27.47	2	+0.5	−2.8	−0.9
	Pulkowa	58.17	3	− 18.22	39.91	3	+0.9	+5.5	−0.1
	Albany	58.56	1	− 13.97	46.25	1	+0.3	+1.4	+1.7
	Washington	2.42	1	− 12.85	48.35	1	+0.3	+1.3	−1.2
22	Pulkowa	50.43	3	− 18.27	31.38	$0=3a_2$	$+1.2\beta_2$	$+5.5\pi'$	−2.3

SECOND SERIES—Continued.

Date.	Observatory.	Second of observed north polar distance.	Precision.	Comp. parallax.	Sec. of computed geocentric north polar distance.	Equations of condition given by the observations.			
									"
1862.									
Sept. 22	Helsingfors	51.48	1	− 18.36	34.88	$0=1a_2$	$+0.4\beta_2$	$+1.8\pi'$	+1.8
	Cape	25.86	3	+ 12.83	39.10	3	+1.2	−3.8	+1.2
	Leiden	5.55	1	− 16.56	48.21	1	+0.4	+1.7	−0.8
	Greenwich	6.95	1	− 16.39	51.13	1	+0.4	+1.6	+0.6
	Santiago	25.1	1	+ 12.7	37.30	1	+0.4	−1.3	−0.5
	Albany	52.12	1	− 14.02	39.32	1	+0.4	+1.4	+1.2
	Washington	54.16	2	− 12.90	41.47	2	+0.8	+2.6	+0.4
23	Williamstown	57.86	3	+ 14.02	12.17	3	+1.4	−4.2	+0.9
	Pulkowa	47.42	2	− 18.32	28.00	2	+1.0	+3.7	−2.2
	Cape	23.32	3	+ 12.84	35.86	3	+1.5	−3.8	−0.9
	Leiden	0.94	1	− 16.61	45.16	1	+0.5	+1.7	+0.8
	Greenwich	4.41	1	− 16.44	48.16	1	+0.5	+1.6	+0.2
	Santiago	22.8	1	+ 12.7	35.18	1	+0.5	−1.3	−0.3
	Albany	50.66	1	− 14.07	37.25	1	+0.5	+1.4	+0.7
	Washington	51.65	2	− 12.94	39.44	2	+1.0	+2.6	+1.5
24	Williamstown	57.52	2	+ 14.02	11.77	2	+1.1	−2.8	+0.5
	Helsingfors	51.42	1	− 18.46	32.45	1	+0.6	+1.8	−0.5
	Cape	23.73	3	+ 12.84	36.82	3	+1.8	−3.8	+0.8
	Leiden	2.43	2	− 16.66	46.26	2	+1.2	+3.3	+1.0
	Santiago	24.3	2	+ 12.7	37.04	2	+1.2	−2.5	+0.1
	Albany	52.71	1	− 14.12	39.12	1	+0.6	+1.4	+0.5
	Washington	53.61	2	− 12.99	41.35	$0=2a_2$	$+1.2\beta_2$	$+2.6\pi'$	+1.5

THIRD SERIES.

Sept. 25	Williamstown	1.05	2	+ 14.02	14.93	$0=2a_3$	$-1.1\beta_3$	$-2.8\pi'$	−0.3
	Helsingfors	54.48	1	− 18.50	36.60	1	−0.5	+1.8	+0.6
	Cape	27.96	2	+ 12.83	41.02	2	−1.0	−2.6	+0.5
	Greenwich	9.65	2	− 16.51	53.62	2	−1.0	+3.3	+1.0
	Santiago	28.2	2	+ 12.7	41.88	2	−1.0	−2.5	+2.0
	Albany	56.17	1	− 14.16	43.98	1	−0.5	+1.4	+2.0
	Washington	58.19	2	− 13.03	46.23	2	−0.5	+2.6	+2.2
26	Williamstown	7.12	3	+ 14.01	20.68	3	−1.3	−4.2	−1.4
	Pulkowa	58.23	3	− 18.44	39.31	3	−1.2	+5.5	−1.4
	Leiden	13.47	3	− 16.72	57.06	3	−1.2	+5.0	+0.9
	Santiago	36.8	2	+ 12.7	48.72	2	−0.8	−2.5	−1.6
	Albany	3.45	1	− 14.19	50.83	1	−0.4	+1.4	+1.6
	Washington	6.41	2	− 13.06	53.11	2	−0.8	+2.6	−0.5
27	Williamstown	13.53	2	+ 14.00	28.09	2	−0.7	−2.8	+1.1
	Pulkowa	5.45	2	− 18.46	47.04	2	−0.6	+3.7	+0.1
	Helsingfors	10.22	2	− 18.56	50.74	2	−0.6	+3.7	−1.8
	Leiden	21.28	3	− 16.75	4.85	3	−0.9	+5.0	+1.0
	Santiago	43.3	1	+ 12.7	56.66	1	−0.3	−1.3	+0.7
	Albany	11.67	1	− 14.21	58.78	1	−0.3	+1.4	+1.3
28	Williamstown	21.39	2	+ 13.98	36.20	2	−0.5	−2.8	+1.7
	Pulkowa	13.54	2	− 18.48	55.16	2	−0.4	+3.7	+0.2
	Helsingfors	14.34	2	− 18.58	58.86	2	−0.4	+3.7	(+6.2)
	Santiago	51.6	2	+ 12.6	4.71	2	−0.4	−2.5	+1.0
	Washington	22.91	1	− 13.11	9.11	1	−0.2	+1.3	−0.7
29	Williamstown	29.53	2	+ 13.96	44.04	2	−0.2	−2.8	+1.1
	Pulkowa	21.85	3	− 18.49	2.72	3	−0.3	+5.5	−1.9
	Helsingfors	23.30	2	− 18.59	6.40	2	−0.2	+3.7	+3.4
	Leiden	37.03	2	− 16.79	20.45	2	−0.2	+3.4	+0.4
	Washington	30.12	1	− 13.14	16.31	1	−0.1	+1.3	−0.7
30	Williamstown	37.15	2	+ 13.93	50.67	2	0.0	−2.8	−0.8
	Pulkowa	27.77	2	− 18.49	8.77	2	0.0	+3.7	−1.0
	Santiago	5.1	1	+ 12.6	17.42	1	0.0	−1.3	−0.3
Oct. 1	Williamstown	41.17	2	+ 13.90	55.17	2	+0.2	−2.8	+0.2
	Pulkowa	30.60	3	− 18.49	12.41	3	+0.3	+5.5	+0.9
	Leiden	47.41	2	− 16.80	29.78	2	+0.2	+3.4	−1.7
2	Williamstown	43.44	3	+ 13.87	56.67	3	+0.6	−4.1	−1.9
	Cape	8.19	3	+ 12.68	20.61	3	+0.6	−3.8	−0.8
	Santiago	6.9	1	+ 12.5	19.49	1	+0.2	−1.2	+0.1
	Washington	36.57	2	− 13.15	23.70	$0=2a_3$	$+0.4\beta_3$	$+2.6\pi'$	+0.6

THIRD SERIES—Continued.

Date.	Observatory.	Second of observed north polar distance.	Precision.	Comp. parallax.	Sec. of computed geocentric north polar distance.	Equations of condition given by the observations.			
1862.									"
Oct. 3	Williamstown	40.11	2	+ 13.83	54.28	$0=2a_3$	$+0.5\beta_3$	$-2.8\pi'$	+0.7
	Cape	4.04	2	+ 12.64	16.64	2	+0.6	−2.5	−0.1
4	Williamstown	32.92	2	+ 13.78	47.12	2	+0.8	−2.8	+0.8
	Pulkowa	18.67	3	− 18.44	0.10	3	+1.2	+5.5	−0.4
	Helsingfors	19.88	1	− 14.54	3.50	1	+0.4	+1.5	−1.8
5	Williamstown	21.11	3	+ 13.73	34.35	3	+1.4	−4.1	−1.5
	Cape	41.10	3	+ 12.53	52.67	3	+1.5	−3.8	−2.9
	Leiden	18.62	1	− 16.73	1.29	1	+0.5	+1.7	−0.6
	Santiago	34.6	1	+ 12.4	47.42	1	+0.5	−1.2	+0.4
6	Pulkowa	42.43	3	− 18.37	24.00	3	+1.8	+5.5	−0.2
	Helsingfors	45.09	1	− 18.47	27.21	1	+0.6	+1.8	+0.6
	Cape	17.66	3	+ 12.48	31.07	3	+1.8	−3.7	+2.8
	Leiden	55.77	3	− 16.70	39.42	3	+1.8	+5.0	+1.0
	Santiago	12.0	1	+ 12.3	24.03	1	+0.6	−1.2	−0.3
	Washington	41.70	1	− 13.10	27.77	$0=1a_3$	$+0.6\beta_3$	$+1.3\pi'$	−0.8

FOURTH SERIES.

Oct. 7	Leiden	26.37	3	− 16.66	10.03	$0=3a_4$	$-1.8\beta_4$	$+5.0\pi'$	+0.″8
	Santiago	41.1	1	+ 12.3	52.97	1	−0.6	−1.2	−0.4
	Albany	7.12	1	− 14.17	54.71	1	−0.6	+1.4	+1.8
	Washington	9.80	1	− 13.08	56.58	1	−0.6	+1.3	−0.1
8	Williamstown	59.65	3	+ 13.56	13.41	3	−1.6	−4.1	+0.6
	Leiden	48.36	3	− 16.62	32.34	3	−1.5	+5.0	+1.8
	Santiago	0.9	1	+ 12.2	13.43	1	−0.5	−1.2	+0.3
	Albany	28.37	1	− 14.13	15.11	1	−0.5	+1.4	+0.9
	Washington	27.76	1	− 13.05	16.91	1	−0.5	+1.3	+2.2
9	Williamstown	18.37	3	+ 13.49	31.28	3	−1.3	−4.0	−1.7
	Helsingfors	53.92	1	− 18.31	34.83	1	−0.4	+1.8	−0.8
	Leiden	2.10	3	− 16.56	45.60	3	−1.2	+5.0	+0.2
	Washington	40.35	2	− 13.02	27.99	2	−0.8	+2.6	+1.3
10	Williamstown	24.28	2	+ 13.42	38.62	2	−0.7	−2.7	+1.8
	Cape	29.95	3	+ 12.22	42.08	3	−0.9	−3.7	−0.3
	Leiden	4.87	3	− 16.50	49.01	3	−0.9	+5.0	+1.9
	Santiago	13.5	2	+ 12.0	26.00	2	−0.6	−2.4	+1.0
11	Williamstown	22.15	2	+ 13.35	35.74	2	−0.5	−2.7	+0.5
	Pulkowa	47.39	3	− 18.07	29.92	3	−0.6	+5.4	+1.8
	Helsingfors	49.73	2	− 18.18	32.42	2	−0.4	+3.6	+1.7
12	Williamstown	8.31	2	+ 13.27	21.98	2	−0.3	−2.7	+0.8
	Pulkowa	30.66	3	− 17.99	12.56	3	−0.3	+5.4	−0.3
	Cape	5.99	3	+ 12.08	17.71	3	−0.3	−3.6	−1.1
	Santiago	44.4	1	+ 11.9	56.00	1	−0.1	−1.2	−0.3
13	Williamstown	42.71	2	+ 13.19	56.71	2	0.0	−2.6	+1.6
	Helsingfors	4.45	1	− 18.01	45.58	1	0.0	+1.8	−0.9
	Cape	35.90	3	+ 12.00	48.19	3	0.0	−3.6	+0.9
14	Leiden	26.98	2	− 16.21	11.31	2	+0.2	+3.2	+1.1
	Albany	52.23	1	− 13.80	39.51	1	+0.1	+1.4	+1.1
15	Pulkowa	24.71	3	− 17.71	7.33	3	+0.6	+5.3	+1.0
	Cape	59.26	2	+ 11.85	11.23	2	+0.4	−2.4	+0.2
	Greenwich	33.88	2	− 15.95	17.29	2	+0.4	+3.2	−1.3
	Santiago	27.5	2	+ 11.7	40.11	2	+0.4	−2.3	+1.8
16	Pulkowa	16.55	3	− 17.60	59.22	3	+0.9	+5.3	+0.8
	Leiden	22.51	2	− 16.03	6.72	2	+0.6	+3.2	+0.5
17	Washington	15.92	1	− 12.53	3.39	1	+0.4	+1.3	+0.0
18	Williamstown	22.02	2	+ 12.74	35.35	2	+1.0	−2.5	+1.2
	Washington	35.23	2	− 12.45	22.18	2	+1.0	+2.5	−1.2
19	Cape	59.61	2	+ 11.55	10.44	2	+1.2	−2.3	−1.4
	Santiago	13.0	2	+ 11.3	24.83	$0=2a_4$	$+1.2\beta_4$	$-2.3\pi'$	+1.1

FIFTH SERIES.

Date.	Observatory.	Second of observed north polar distance.	Precision.	Comp. parallax.	Sec. of computed geocentric north polar distance.	Equations of condition given by the observations.			
1862.									"
Oct. 20	Santiago	2.4	2	+ 11.3	13.18	$0=2a_5$	$-1.4\beta_5$	$-2.3\pi'$	−1.0
	Washington	26.19	2	− 12.28	13.89	2	−1.4	+2.5	+0.0
21	Cape	27.32	3	+ 11.32	39.05	3	−1.8	−3.4	+1.2
22	Williamstown	40.56	2	+ 12.35	53.99	2	−1.1	−2.5	+2.2
	Cape	47.92	3	+ 11.23	59.21	3	−1.5	−3.4	+0.2
	Washington	12.58	2	− 12.09	1.81	2	−1.0	+2.4	+2.6
23	Williamstown	51.35	2	+ 12.25	3.47	2	−0.9	−2.4	−0.3
	Cape	52.01	3	+ 11.13	2.88	3	−1.2	−3.3	−0.8
	Santiago	50.2	2	+ 11.0	1.21	2	−0.8	−2.2	+0.0
	Albany	12.75	1	− 12.96	1.15	1	−0.4	+1.3	+1.4
	Washington	12.09	1	− 11.99	1.05	1	−0.4	+1.2	+1.0
24	Williamstown	44.55	2	+ 12.15	56.31	2	−0.7	−2.4	−0.8
	Cape	38.37	3	+ 11.04	49.81	3	−0.9	−3.3	+1.2
	Leiden	3.29	2	− 15.11	48.97	2	−0.6	+3.0	+1.6
	Santiago	32.7	1	+ 10.9	43.98	1	−0.3	−1.1	+0.4
	Washington	54.31	1	− 11.88	43.52	1	−0.3	+1.2	+1.1
25	Cape	8.73	3	+ 10.95	19.83	3	−0.6	−3.3	+0.4
	Santiago	57.9	1	+ 10.8	9.78	1	−0.2	−1.1	+1.1
26	Williamstown	38.81	3	+ 11.94	51.27	3	−0.4	−3.6	+1.6
	Leiden	45.05	2	− 14.83	30.65	2	−0.2	+3.0	+0.9
27	Cape	17.89	3	+ 10.75	28.72	3	0.0	−3.2	+0.2
	Santiago	58.5	2	+ 10.6	10.19	2	0.0	−2.1	+2.2
	Albany	21.67	1	− 12.51	9.54	1	0.0	+1.3	+0.4
28	Cape	57.40	3	+ 10.65	7.48	3	+0.3	−3.2	−1.7
	Albany	55.06	2	− 12.40	43.92	2	+0.2	+2.5	+2.5
	Washington	53.98	2	− 11.44	43.06	2	+0.2	+2.3	+1.0
29	Williamstown	54.25	3	+ 11.63	5.64	3	+0.5	−3.5	−0.7
	Greenwich	38.04	2	− 14.26	23.66	2	+0.4	+2.9	−0.2
	Santiago	51.7	1	+ 10.4	2.20	1	+0.2	−1.0	+0.1
	Washington	10.28	1	− 11.33	0.23	1	+0.2	+1.1	+1.3
30	Williamstown	4.31	3	+ 11.53	16.30	3	+0.8	−3.5	+1.4
	Cape	23.20	3	+ 10.47	33.89	3	+0.9	−3.1	+0.7
	Santiago	53.8	1	+ 10.3	2.73	1	+0.3	−1.0	−1.4
	Albany	12.09	1	− 12.14	1.63	1	+0.3	+1.2	+1.7
	Washington	11.19	2	− 11.21	0.47	2	+0.6	+2.2	+1.0
31	Williamstown	58.29	3	+ 11.42	10.08	3	+0.1	−3.4	+1.1
	Pulkowa	41.29	3	− 15.50	26.39	3	+1.2	+4.6	+1.8
	Helsingfors	37.65	1	− 15.61	24.29	1	+0.4	+1.6	+2.2
	Cape	10.78	3	+ 10.38	21.78	3	+1.2	−3.1	+1.8
	Leiden	29.67	3	− 14.11	16.30	3	+1.2	+4.2	+2.2
	Santiago	36.5	1	+ 10.2	46.49	1	+0.4	−1.0	−0.2
	Washington	54.48	2	− 11.09	43.92	2	+0.8	+2.2	+1.1
Nov. 1	Williamstown	35.20	3	+ 11.32	47.15	3	+1.4	−3.4	+1.9
	Pulkowa	12.96	3	− 15.34	58.18	3	+1.5	+4.6	+1.7
	Cape	43.02	3	+ 10.29	53.01	3	+1.5	−3.1	−0.9
	Santiago	3.6	1	+ 10.2	13.62	1	+0.5	+1.0	−0.2
	Albany	22.30	1	− 11.88	12.25	1	+0.5	+1.2	+1.8
2	Helsingfors	27.02	2	− 15.29	10.82	2	+1.2	+3.1	−1.8
	Cape	57.10	2	+ 10.20	7.71	2	+1.2	−2.0	+0.8
	Santiago	13.7	1	+ 10.1	24.26	1	+0.6	−1.0	+0.5
	Washington	31.36	2	− 10.85	21.08	2	+1.2	+2.2	+1.1
3	Williamstown	0.09	2	+ 11.11	11.66	2	+1.3	−2.2	+0.9
	Cape	57.23	2	+ 10.12	5.99	2	+1.4	−2.0	−2.7
	Greenwich	8.96	1	− 13.97	56.22	1	+0.7	+1.4	+1.2
	Santiago	9.0	1	+ 10.0	18.46	1	+0.7	−1.0	−0.5
	Washington	25.26	1	− 10.73	15.06	1	+0.7	+1.1	+0.5
3	Helsingfors	6.32	2	− 14.96	51.77	$0=2a_5$	$+1.6\beta_5$	$+3.0\pi'$	+0.8

Treating these equations by the method of least squares, we have the following normal equations:

First series.

$$\begin{aligned} 311\ a_1 - 11.5\beta_1 - 32.4\pi' + 48''.5 &= 0, \\ -11.5a_1 + 145.8\beta_1 + 114.0\pi' + 14\ .0 &= 0, \\ -32.4a_1 + 114.0\beta_1 + 533.9\pi_1 + 41\ .8 &= 0. \end{aligned}$$

Second series.

$$\begin{aligned} 308\ a_2 + 6.2\beta_2 + 122.7\pi' + 2''.5 &= 0, \\ 6.2a_2 + 41.1\beta_2 - 19.9\pi' - 1\ .3 &= 0, \\ 122.7a_2 - 19.9\beta_2 + 719.6\pi' - 25\ .3 &= 0. \end{aligned}$$

Third series.

$$\begin{aligned} 237\ a_3 + 4.8\beta_3 + 67.9\pi' + 3''.9 &= 0, \\ 4.8a_3 + 33.6\beta_3 - 12.4\pi' - 7\ .1 &= 0, \\ 67.9a_3 - 12.4\beta_3 + 567.1\pi' + 13\ .0 &= 0. \end{aligned}$$

Fourth series.

$$\begin{aligned} 192\ a_4 - 23.8\beta_4 + 62.1\pi' + 44''.4 &= 0, \\ -23.8a_4 + 24\ 7\beta_4 - 11.0\pi' - 9\ .7 &= 0, \\ 62.1a_4 - 11.0\beta_4 + 427.9\pi' + 38\ .4 &= 0. \end{aligned}$$

Fifth series.

$$\begin{aligned} 264\ a_5 + 23.5\beta_5 - 83.2\pi' + 75''.1 &= 0, \\ 23.5a_5 + 45.4\beta_5 + 26.4\pi' + 7\ .5 &= 0, \\ -83.2a_5 + 26.4\beta_5 + 378.2\pi' + 38\ .6 &= 0. \end{aligned}$$

The separate solution of each series of equations gives the following results:

First series	$a_1 = -0''.167$;	$\beta_1 = -0''.053$;	$\pi' = -0''.077$.
Second series	$a_2 = -0.020$;	$\beta_2 = +0.024$;	$\pi' = +0.039$.
Third series	$a_3 = -0.016$;	$\beta_3 = +0.210$;	$\pi' = -0.016$.
Fourth series	$a_4 = -0.188$;	$\beta_4 = +0.187$;	$\pi' = -0.057$.
Fifth series	$a_5 = -0.354$;	$\beta_5 = +0.119$;	$\pi' = -0.188$.

These are merely first approximations to the values of the unknown quantities. The rigorous solution would require us to take the last equation of each series and add them together to form a single one, and then find the values of the eleven unknown quantities from the eleven equations to which the fifteen would thus be reduced. This we shall do by successive approximations.

There is another consideration which will modify their treatment. It will be remembered that β is simply the change in a during ten days, that change being supposed uniform. Now, having a series of values of a at intervals of twelve or fifteen days, we could, if they were strictly comparable, deduce from their differences the values of β. In fact, only the first two are strictly comparable, different stars being used in each of the following series, the adopted positions of which may not strictly correspond to those of the first series. The probable differences between the means of eight stars, several of which are common, is, however, so small that the values of β, deduced by differences, can hardly be appreciably in error from this cause.

The comparison of the five successive values of a give the following values of β, alongside of which we place, for comparison, the values which have just been derived from the equations.

Value of	β_1	from	differences is	$+0''.09$;	from	equations,	$-0''.05$.
"	β_2	"	"	$+0.05$;	"	"	$+0.02$.
"	β_3	"	"	-0.05;	"	"	$+0.21$.
"	β_4	"	"	-0.12;	"	"	$+0.19$.
"	β_5	"	"	-0.12;	"	"	$+0.12$.

The contrary progression and contrary signs of the two systems of values are a little singular. I can attribute them only to accidental errors. From the two series are deduced the following, as the most probable values of β:

$$\beta_1 = +0''.04,$$
$$\beta_2 = +0.04,$$
$$\beta_3 = 0.00,$$
$$\beta_4 = -0.03,$$
$$\beta_5 = -0.03.$$

A second approximation to the value of π' gives

$$\pi' = -0''.05.$$

Substituting these values of β and π' in the first equation of each series we have the following values of a:

$$a_1 = -0''.160,$$
$$a_2 = +0.011,$$
$$a_3 = -0.002,$$
$$a_4 = -0.219,$$
$$a_5 = -0.295.$$

These values of a, and the above of β, being substituted in the last equation of each series, these equations assume the following form, and give the following values of the solar parallax:

First series - - - -	$533.9\pi' = -51''.5$;	$\pi' = -0''.096$;	$\pi = 8''.815$.
Second series - - -	$719.6\pi' = +24.8$;	$+0.034$;	8.930.
Third series - - - -	$567.1\pi' = -12.9$;	-0.023;	8.880.
Fourth series - - -	$427.9\pi' = -25.1$;	-0.059;	8.847.
Fifth series - - - -	$378.2\pi' = -66.0$;	$=0.175$;	8.744.
Total - - - - - -	$2626.7\pi' = -130.7$;	$\pi' = -0.050$;	$\pi = 8''.855$.

The probable error of each equation is about $0''.82$; the probable error of the concluded value of π' is approximately equal to the quotient of this quantity by the square root of the coefficient of π' in the final equation, or $0''.016$; the probable error of π itself, therefore, is by the usual method, $0''.014$. But this method presupposes that the errors of all the separate equations are entirely independent—an unsafe hypothesis until we ascertain whether the observations made at each Observatory may not be affected with errors peculiar to the observer. This we do by substituting in each equation of condition the concluded values of the unknown quantities, taking the algebraic sums of the residuals of the equations belonging to each Observatory, and dividing by the sum of the numbers by which the errors of observation have been

multiplied, which is the same as the sum of the coefficients of a. The following are the separate sums of residuals and multipliers for each series of equations, with the final mean residual :

	Williamstown.		Pulkowa.		Helsingfors.	
	"		"		"	
First series . . .	+ 6.0	25	— 2.9	20	—0.1	1
Second series . .	+ 2.6	23	— 8.3	28	+0.9	6
Third series . . .	+ 2.0	25	— 5.5	18	+0.3	7
Fourth series . .	+ 2.5	16	— 0.5	22	—1.3	4
Fifth series . . .	+ 2.1	23	+ 1.1	6	—0.8	5
Sum	+15.2	112	—16.1	94	—1.0	23

	Cape.		Leiden.		Greenwich.	
	"		"		"	
First series . . .	+ 2.5	38	+ 3.4	7	—3.1	6
Second series . .	+ 5.5	18	— 0.1	23	+0.6	4
Third series . . .	+ 0.4	13	— 0.3	14	+0.8	2
Fourth series . .	— 3.4	11	+ 1.3	16	—1.9	2
Fifth series . . .	— 7.6	34	+ 2.1	7	—0.1	3
Sum	— 2.6	114	+ 6.4	67	—3.7	17

	Santiago.		Albany.		Washington.	
	"		"		"	
First series . . .	—11.4	23	+ 8.1	12	+2.2	14
Second series . .	— 4.9	11	+ 3.9	4	—0.8	13
Third series . . .	+ 2.8	11	+ 4.7	3	—0.5	9
Fourth series . .	+ 2.1	9	+ 2.9	3	+0.2	7
Fifth series . . .	— 3.4	14	+ 5.6	6	+5.0	16
Sum	—14.8	68	+25.2	28	+6.1	59

The probable algebraic sum of the residuals on the hypothesis of no constant errors peculiar to each Observatory will be $0''.82\sqrt{N}$; N being the number of observations, and the mean value will be $0''.97\sqrt{N}$.

The following table exhibits a comparison of the actual and probable sums, and the actual and probable mean residuals of the individual observations in the entire number made at each Observatory:

Observatory.	Probable sum.	Actual sum.	Probable mean.	Actual mean.
	"	"	"	"
Williamstown . .	±5.8	+15.2	±0.05	+0.14
Pulkowa	±4.5	—16.1	±0.05	—0.17
Helsingfors . . .	±3.6	— 0.1	±0.16	—0.04
Cape	±5.4	— 2.6	±0.05	—0.02
Leiden	±4.4	+ 6.4	±0.07	+0.10
Greenwich . . .	±3.0	— 3.7	±0.18	—0.22
Santiago	±5.7	—14.8	±0.08	—0.22
Albany	±4.3	+25.2	±0.15	+0.90
Washington . . .	±4.9	+ 6.1	±0.08	+0.10

It will be seen that the actual exceeds the probable residual in seven cases out of the nine, so that the probability in favor of systematic differences is very great. In the case of Albany the evidence in favor of extraordinary systematic difference is indisputable, the observed polar differences being nine-tenths of a second less than those of the other northern Observatories

throughout the entire series. This great discrepancy gives rise to the question whether the observations exhibiting them ought not to be considered as affected with some abnormal source of error, and rejected entirely; or, in other words, whether that standard to which the three southern Observatories is comparable, is more likely to be the mean of all the northern Observatories, including Albany, or only the mean of those five which agree well between themselves. Rejecting Albany altogether, the final equation in π' would be, approximately,

$$2574\pi' = -97''.$$

The resulting parallax would, therefore, be $8''.866$, the Albany observations entering into the final result for parallax with a weight of only one-fiftieth that of all the others. I think we may consider them entitled to this weight notwithstanding their discordance, and shall, therefore, consider the parallax already deduced the most probable result of the meridian observations. Owing, however, to the evidence of constant errors, the probable error of the result must be increased to $0''.020$, giving, as the parallax from meridian observations of Mars, made in 1862, according to Winnecke's plan,

$$8''.855 \pm 0''.020.$$

§ 6.

Micrometric Observations of Mars, 1862.—These observations are discussed by Professor Hall, in the Introduction to the Washington Observations for 1863, in a manner which, so far as I see, leaves nothing to be desired. I shall, therefore, accept his result, which is

$$8''.842 \pm 0''.04,$$

the probable error being a rough estimate from the discordance of the results, and the probable systematic errors of the observers.

§ 7.

Solar Parallax from Observed Parallactic Inequality of the Moon.—The observations of the Moon, especially the older ones, do not present values of the parallactic inequality as accordant as we might expect from their number. In his second memoir on the corrections of the elements of the Moon's orbit, the Astronomer Royal finds, from all the Greenwich meridian observations of the Moon, from 1750 to 1851, the value $122''.79$,* while the Altazimuth observations alone give the value $125''.50$. When the observations previous to 1811 are rejected, owing to uncertainty what value of the semi-diameter should be used, the result is increased to $124''.37$. Finally, it is concluded that the real value of the coefficient cannot be far from $124''.7$.

Hansen's discussion of the Greenwich observations appears, however, to have led to a materially different result. In calculating the coefficients of the lunar perturbations, he found, from an assumed solar parallax, the value $121''.368$.† By comparison with observations, however, it results that this value of the inequality must be multiplied by the factor 1.03573, in order to satisfy the observations‡. This gives for the true value of the coefficient, $125''.70$.

The comparison of these publications of Professor Hansen shows that these coefficients are those of the development of *his disturbed mean anomaly*, while the usual development is that of the *true longitude*. They cannot be compared with other values until they are reduced to the latter development. If we represent by e_1, e_2, etc., the coefficients of sine mean anomaly, sine $2\times$ mean anomaly, etc., in the development of the true anomaly, we find the following value of the perturbations of the latter from the formulæ on page 3 of Hansen's tables:

$$\begin{aligned} \delta f = \quad & n\delta z\,[1 + e_1 \cos g + 2e_2 \cos 2g + \text{etc}]. \\ & + (n\delta z)^2[\ -\tfrac{1}{2}e_1 \sin g - 2e_2 \sin 2g - \text{etc}]. \end{aligned}$$

* Memoirs of the Royal Astronomical Society, vol. XXIX, p. 16.

† Monthly Notices R. A. S., vol. XXIII, p. 242; Tables de la Lune, p. 8.

‡ Monthly Notices, XV, 9; XXIII, 242; XXIV, 10; Tables de la Lune, p. 16.

If we represent by a sin N any term in $n\delta z$, there will result in δf, in virtue of the first term of this equation, the terms

$$a \sin N + \tfrac{1}{2}e_1 \sin (N+g) + \tfrac{1}{2}e_1 \sin (N-g) + e_2 \sin (N+2g) + \text{etc.}$$

The powers of $n\delta z$ are to be developed in like manner.

In developing the square of $n\delta z$, I find no terms which will sensibly affect the parallactic inequality. The latter will therefore depend altogether in the following terms in Hansen's $n\delta z$:

$-11''.692 \sin (-g'+\omega-\omega')$	producing the coefficient	$0''.641$,
$-121''.368 \sin (g-g'+\omega-\omega')$	" "	$121''.368$,
$-1''.614 \sin (2g-g'+\omega-\omega')$		$0''.089$.

The total value of the theoretical coefficients is therefore $122''.098$, which, being multiplied by 1.03573, gives

$$126''.46$$

for the actual value of the parallactic inequality deduced by Hansen from the observations of Greenwich and Dorpat, and adopted in his tables.

The Monthly Notices of the Royal Astronomical Society for May, 1867, contain a short abstract of a paper by Mr. Stone, in which he deduces from 2,075 Greenwich observations the value

$$125''.36.$$

This result I shall accept as the definitive result of the Greenwich observations.

The Washington observations of the Moon, from 1862 to 1865, inclusive, are regularly compared with Hansen's tables. I have discussed those made within two days of the time of maximum and minimum parallactic inequality, on the supposition that the effect of errors in the other inequalities will destroy each other in the course of the four years. Thus, the following corrections to Hansen's parallactic inequality are obtained for the several years:

1862,	$-2''.2$;
1863,	$-2''.2$;
1864,	$-2''.0$;
1865,	$-2''.0$.

These results are still subject to correction for adopted semi-diameter of Moon. Seven transits of both limbs of the nearly full Moon were observed during the above period. The mean correction to Hansen's semi-diameter was zero. If, then, we suppose this same semi-diameter applicable to the Moon at her first and last quarters, the coefficient of parallactic inequality will be

$$126''.46 - 2''.10 = 124''.36.$$

But the same semi-diameter will not be applicable, because one-half the observations for parallactic inequality are made while the Sun is above the horizon, and a considerable fraction of the remaining half are made during twilight, while those on which the semi-diameter depends are made at midnight, when the brilliancy of the Moon is such as to excite the eye to a disagreeable extent. From the experiments of Dr. Robinson,* and the researches of Mr. Breen,† and other data, it seems that the effect of this brilliancy is to increase the apparent semi-diameter of the Moon by about $2''$. About one-half of the observations being thus affected, the correction to the parallactic inequality from this cause ought to be about $+1''.0$.

* Memoirs Royal Astronomical Society, vol. v.

† Greenwich Observations for 1864, Appendix.

To obtain an independent determination of this correction, I have made a general comparison of the apparent errors of Hansen's tables in right ascension, when the observations were made during daylight with the corresponding errors when they were made at night. The selected night hours were, on the average, a very little nearer to midnight than the day hours were to noon. The results were for the apparent errors of the tables in right ascension:

	s
Before sunset	−0.154
After bright daylight in the evening	−0.093
Before bright daylight in the morning	+0.091
After sunrise	+0.153

From this investigation, the real enlargement would appear to be 0″.92, and the correction to the parallactic inequality 0″.5. But this correction is so affected by the correction of the coefficient of variation that it cannot be relied on.

There is still another cause of smaller apparent diameter about sunrise and sunset. At those times the Moon's disk is generally very sharply defined, while at midnight there is generally more or less spurious enlargement, called "blurring."

Finally, the following are adopted as the most probable corrections to the semi-diameter at midnight:

	″
On account of irradiation	−0.9
" " spurious enlargement	−0.2
Total	−1.1

The effect of this correction will be to increase the parallactic inequality derived from the Washington observations to

125″.46.

The different results will be combined by giving this the weight 4, Stone's the weight 8, and Hansen's the weight 1; the latter being derived from the Dorpat as well as the Greenwich observations. This gives

125″.49

as the most probable value of the parallactic inequality derived from observations.

Owing to the uncertainty respecting the proper semi-diameter of the Moon to be adopted, and to the fact that owing to the libration of the Moon's disk the points of the Moon's surface observed at quadratures may be systematically different from those observed at full Moon, I estimate the probable error of the above result at

0″.35.

To deduce the solar parallax from this value of the parallactic inequality, the formulæ of Delaunay and Plana will be adopted.* They give, for the parallactic inequality in terms of the solar parallax,

$$F.\frac{1-\mu}{1+\mu}.\frac{\sin\pi}{\sin P\left(1-\frac{m^2}{6}\right)}.$$

* Theorie du mouvement de la Lune, tome II, p. 847. Mr. Delaunay was good enough to communicate the formulæ for F in advance of the volume.

Where

π = constant of solar parallax.

μ = mass of the Moon. Adopted value, $\frac{1}{81.5}$.

P = constant of lunar parallax, = 3422″.7.

m = ratio of mean motions of Sun and Moon.

F, a factor whose value, according to Delaunay's theory, is formed as follows:

Terms multiplied by m - - - - - - - - -	0.13865
" " m^2 - - - - - - - - -	.06500
" " m^3 - - - - - - - - -	.02262
" " m^4 - - - - - - - - -	.00885
" " m^5 - - - - - - - - -	.00382
" " m^6 - - - - - - - - -	.00136
" " m^7 - - - - - - - - -	.00064
Higher terms, (by induction) - - - - - - -	.00029
Total value of F - - - - - - - - - -	.24123

Whence, solar parallax from parallactic inequality of the Moon =

$$8''.838 \pm 0''.025.$$

As a test of the theory, this result may be compared with that of Hansen, in the Monthly Notices, vol. 24. From a value of the Moon's mass $\frac{1}{80}$, and the parallactic inequality of his tables, (126″.46,) he finds for the solar 8″.916. Altering the result to correspond to the data of the present paper, it will be

$$8''.844,$$

agreeing satisfactorily with the theory of Delaunay.

§ 8.

Solar Parallax from the Observed Lunar Equation of the Earth combined with the Mass of the Moon.—In constructing his tables of the Sun, Le Verrier investigated the lunar inequality of the earth from 35 years of Greenwich, 42 of Paris, and 17 of Konigsberg observations, with the result*

$$6''.50,$$

and a probable error of about 0″.03.

To complete the investigation, I have added the results of 14 years of Greenwich and 5 years of Washington observations. The results for the separate years are as follows:

Greenwich Observations.

1851.	Cor. = +0″.33;	ineq. = 6″.87.	1858.	Cor. = +0″.01;	ineq. = 6″.45.
1852.	−0.13;	6.41.	1859.	+0.21;	6.65.
1853.	+0.25;	6.79.	1860.	+0.16;	6.60.
1854.	−0.11;	6.33.	1861.	−0.35;	6.19.
1855.	+0.03;	6.47.	1862.	+0.22;	6.76.
1856.	+0.39;	6.83.	1863.	+0.11;	6.65.
1857.	−0.10;	6.34.	1864.	−0.02;	6.48.

Resulting value of the lunar inequality,

$$6''.56 \pm 0''.04.$$

* Annales de l'Observatoire Impèrial de Paris, Mèmoires, tome IV, p. 100.

Washington Observations.

1861–'2.	Cor. = −0.04;	ineq. = 6.37.	1864.	Cor = −0.01;	ineq. = 6.40.
1863.	+0.27;	6.68.	1865.	+0.18;	6.59.

Resulting value of the lunar inequality,

$$6''.51 \pm 0''.07.$$

It will be seen that the following values of the tabular coefficient have been used in obtaining the inequality from the correction given by the observations:

Greenwich, 1851–1853	6.54
1854–1860	6.44
1861–1863	6.54
1864	6.50
Washington	6.41

It is necessary to explain how these values have been obtained.

The above corrections, in the case of Greenwich, were deduced from the "Apparent Error of the Tables in R. A.," given each year in the Greenwich Observations in connection with the observed positions of the Sun, by a comparison of the "Apparent Errors" within three days of the maxima and minima values of lunar inequality. The next step is to find the value of the inequality actually contained in the ephemeris. The latter is, until 1863, that deduced from Carlini's Tables and published each year in the British Nautical Almanac. By induction from Carlini's Table V, it appeared that his value of the inequality was 6″.54. Afterward, I found that in a preceding volume of the "Effemerides" he had deduced the value 6″.537 from theory, and probably the table was constructed from this value. If, then, the ephemeris corresponded exactly with the tables, this would be the value to which the corrections correspond.

But on page V of each volume of the Nautical Almanac from 1854 to 1860, inclusive, it is stated that "The Longitude and Radius-Vector have been computed accurately from the Tables for the Mean Noon of every 6th day of the year, and interpolated with fourth differences for each day." Now, since the lunar inequality goes through its period in a month, its successive orders of differences for each sixth day will be divergent, and interpolation with fourth differences will result in the interpolated inequality being generally too small numerically. To find how much too small, actual trial was resorted to. A number of six-day series of values of the inequality was taken from Carlini's Table V, interpolated to days near the maxima and minima, and compared with the corresponding tabular values. The result showed that the interpolated values were, on the average, numerically too small by 0″.105. Since one-sixth of the values would be accurate, the actual diminution of Carlini's inequality would be 0″.087, reducing it to 6″.45.

From 1858 forward, the Sun's positions given in the American Ephemeris are deduced from Hansen's Tables, in which the value of the lunar inequality is 8″.41. Comparing these positions with the corresponding ones of the Nautical Almanac, the following differences were found:

1858,	+0.02;
1859,	+0.04;
1860,	+0.01;
Mean,	+0.02;

giving, for the value of the inequality actually contained in the Nautical Almanac Ephemeris, 6″.43. The mean of this and the former result is 6″.44, which was considered the most probable value of the quantity in question.

Without the limits of the seven years, 1854–'60, the computations of the Nautical Almanac are probably at sufficiently short intervals to avoid the error of interpolation.

For 1864, LeVerrier's Solar Tables were adopted, the value of the lunar equation in which is 6″.50. We have, then, the following three values of the quantity sought for, deduced from observations:

From Greenwich, Paris, and Konigsberg observations,	6.50 ±0.03;	wt. =11.
Greenwich, 1851 to 1864 - - - - - - - -	6.56 ±0.04;	6.
Washington, 1861 to 1865 - - - - - - - -	6.51 ±0.07;	2.
Mean, by weights - - - - - - - - - - - -	6.520±0.023.	

Although the accidental errors of the observations on which this result depends are quite large, the observations have this invaluable characteristic, that they seem to be perfectly free from any cause of systematic error. Among all the constant sources of error to which observations of the Sun are liable, I can think of none which can systematically change with the first and last quarters of the Moon. If there are none, the precision of the determination of the lunar equation will go on increasing indefinitely with the number of observations.

The next step is to determine the mass of the Moon. The most precise determination is obtained by a comparison of the constants of precession and nutation, which gives the ratio of the disturbing forces of the Sun and Moon in changing the direction of the earth's axis of rotation. The value of this ratio will be deduced from the exhaustive memoir of Serret*, after reconstructing his expression for Ω so as to include the terms of the third order with respect to the inclination and eccentricity of the Moon's orbit, which he has neglected. This is effected by substituting the expression

$$(1+\tfrac{3}{2}e'^2)\sin c\cos c$$

for c in his value of Ω.

Let us put

μ = mass of the Moon, that of the Earth being unity.
p = sine of its parallax, in seconds.
M = mass of the Sun.
ε = ratio of disturbing forces of Sun and Moon.
x = disturbing force of the Sun.
a = luni-solar precession for 1850.
N = constant of nutation.
P = coefficient of lunar equation of Earth.

Then the observed length of the seconds pendulum compared with the siderial year gives

$$\log M\pi^3=8.35488.$$

Whence

$$\varepsilon=\frac{\mu p^3}{M\pi^3}=[2.24812]\mu.$$

The formulæ of precession and nutation give

$$N=[9.38069]x\varepsilon,$$
$$a=[9.96272]x+[9.95922]x\varepsilon.$$

Peters's concluded value of the constant of nutation is

$$N=9''.223.$$

*Annales de l'Observatoire Impèrial de Paris, vol. v, p. 323.

The value of the luni-solar precession derived from Struve's general precession, with the mass of Venus concluded by LeVerrier, from his investigations of the motion of that planet, is

$$a=50''.378.$$

Substituting these values of a and N in the above equations, we find

$$\log x\epsilon=1.57818,$$
$$\log x\ =1.23898,$$
$$\log \epsilon\ =0.33920,$$
$$\mu=\frac{1}{81.08}.$$

Developing the longitude and parallax of the Moon so as to include the variation, and the corresponding term in the parallax, we find

$$P=1.0080\frac{1}{1+\mu}\frac{\pi}{p}=[1.78354]\,\pi\frac{\mu}{1+\mu},$$

or,

$$\pi=\ .016461\,P\left(1+\frac{1}{\mu}\right).$$

Substituting the value of P, already found from observation, we have

$$\pi=8''.809.$$

The most uncertain data which enter into this result are the constant of nutation, with the resulting mass of the Moon, and the lunar equation of the earth. The probable error of the nutation constant is perhaps $\frac{1}{600}$ of its whole amount, which would involve an error of $\frac{1}{200}$ in the resulting mass of the Moon and solar parallax, or, of 0″.044 in the latter. The uncertainty of the other factor involves a probable error of 0″.031, so that the total probable error of the result is 0″.054.

§ 9.

Transit of Venus in 1769.—The results of Powalky's discussion* will be accepted. He finds $\pi=8''.832\pm0''.021$. But considering that the longitude of the observing station at San José is uncertain, he arbitrarily changes it by 10*s.*, which increases the parallax to 8″.86, which he considers the most probable value.

That so small a change in the longitude of a single station should change the parallax so largely, shows that the probable error 0″.021 must be illusory. I think 0″.04 a more likely value of this element.

§ 10.

Concluded Parallax and Distance of the Sun.—The separate results for the solar parallax with their probable errors, and their consequent weights, are as follows:

From meridian observations of Mars, 1862 - -	8″.855	± .020;	wt. =25.
From micrometric observations of Mars, 1862 -	8.842	± .040;	6
From parallactic inequality of the Moon - - -	8.838	± .028;	16.
From the lunar equation of the Earth - - - -	8.809	± .054;	3.
From the transit of Venus in 1769 - - - - -	8.860	± .040;	6.
From Foucalt's experiments on light - - - -	8.860	?	?

* Additions à la Connaissance des Temps, 1867, p. 22.

The last may not be considered a strictly astronomical result, and it is difficult to assign its probable error. The mean by weights of the other results is 8″.847. From a consideration of all the results, it is concluded that in the present state of astronomical science the most probable value of the mean equatorial horizontal parallax of the Sun is

$$8''.848,$$

with a probable error of

$$\pm 0''.013,$$

corresponding to a mean distance of

92,380,000 statute miles.

For astronomical purposes the value of π,

$$8''.85$$

may be taken as a round number of hundredths having equal weight with the above concluded value.

§ 11.

Conclusions respecting the different Elements which depend on the parallax of the Sun.—From the equation of § 7, which gives the mass of the Sun in terms of its parallax, we find for the value of that mass

$$326800 \pm 1360,$$

taking the mass of the Earth as unity.

The value of the lunar equation of the Earth derived in the same section gives for the mass of the Moon

$$\frac{1}{81.44 \pm 0.33}.$$

Taking the mass of the Sun as unity, the combined masses of the Earth and Moon will therefore be

$$\frac{1}{322800}.$$

With the above value of the mass of the Moon we find from the equations of § 7,

$$\epsilon = 2.174,$$

$$N = 9''.210 \pm 0''.011,$$

a value of the constant of nutation rather more probable, and more easily obtained than any derived from direct observation. The advantage of the theoretical mode of deriving this constant arises from the fact that an error in the adopted mass of the Moon produces an error of less than one-third its proportionate amount in the resulting constant of nutation.

The theory does not appear to be subject to any objection arising from our ignorance of the physical constitution of the interior of the Earth.

From the data of § 6, Delaunay's theory gives for the parallactic inequality of the Moon

$$125''.63 \pm 0''.19.$$

Taking the constant of aberration as 20″.4451, we have for the velocity of light

185,600 miles per second.

This is slightly greater than the result of Foucault's experiments with the revolving mirror. Adopting that determination, the constant of aberration would be increased about 0″.03. But the distance of the Sun and the terrestrial determination of the velocity of light are both uncertain to an amount greater than this increase, which is therefore altogether unreliable. The constant of aberration must be found by direct observation.

OBSERVATIONS

WITH THE

MERIDIAN TRANSIT INSTRUMENT,

1865.

OBSERVATIONS

WITH THE

MERIDIAN TRANSIT INSTRUMENT.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 4		Sun I	1	9.4	11.4	12.7	23.1	24.1	25.3	26.8	27.8	38.6	39.6	42.0	1 25.53	— 0.20	+ 9.70	19 1 35.03	. .
		Sun II	2	30.9	33.1	34.5	44.8	45.7	47.2	48.5	49.6	. .	. .	. .	3 41.79	+ 5.20	9.70	19 3 56.69	. .
E.	α	Aquilæ	†3	46.1	48.2	49.4	59.1	0.0	1.3	2.4	3.5	13.2	14.3	16.4	44 1.26	0.06	9.73	19 44 11.05	+ 15.27
	α	Cygni	4	17.6	20.4	22.1	35.5	36.9	38.6	40.1	41.7	55.2	56.9	0.0	36 38.64	0.45	9.78	20 36 48.87	11.14
Y.	β	Aquarii	5	1.7	3.9	5.1	14.6	15.6	16.8	17.9	19.1	. .	. .	. .	24 11.84	4.95	9.81	21 24 26.60	16.22
	β	Cephei	6	58.3	3.5	7.5	35.0	37.8	41.5	45.0	48.0	16.1	19.6	25.6	26 41.63	+ 1.25	9.81	21 26 52.69	5.79
	ε	Pegasi	7	. .	. .	. .	20.9	22.0	23.2	24.4	25.5	35.1	36.4	38.4	37 28.24	— 4.95	9.82	21 37 33.11	15.02
E.		Venus I	8	3.7	5.8	7.2	16.8	17.8	18.9	20.2	21.4	31.2	32.6	34.6	53 19.11	— 0.13	9.84	21 53 28.82	0.54
Y.	α	Andromedæ	9	58.2	0.5	2.1	12.8	14.0	15.3	16.7	17.8	28.8	30.1	32.5	1 15.35	+ 0.24	9.93	0 1 25.52	14.79
	γ	Pegasi	10	52.3	54.4	55.7	5.4	6.5	7.7	8.9	10.0	20.0	21.1	23.3	6 7.75	0.11	9.92	0 6 17.79	14.86
	δ	Piscium	11	14.6	16.6	17.9	27.4	28.4	29.6	30.8	31.9	41.6	42.8	44.8	13 29.67	+ 0.05	9.93	0 13 39.65	14.89
		Weisse 247	12	. .	.	. .	51.4	52.5	53.7	54.9	56.0	5.6	6.7	8.8	14 58.70	— 4.95	9.93	0 15 3.68	14.88
		Weisse 302	13	20.0	22.0	23.1	32.7	33.7	35.0	36.1	37.2	46.9	48.1	50.2	18 35.00	+ 0.05	9.94	0 18 44.99	14.87
		Neptune	14	41.6	43.6	45.0	54.5	55.4	56.6	57.7	58.7	8.4	9.5	11.7	22 56.61	0.00	9.94	0 23 6.55	. .
	δ	Piscium	15	16.4	. .	19.7	29.3	30.2	31.5	32.7	33.8	43.4	44.6	46.7	42 32.83	— 1.26	9.96	0 42 41.53	14.81
	ε	Piscium	16	32.0	34.0	35.3	44.9	45.8	47.1	48.3	49.3	59.0	0.2	2.4	55 47.12	+ 0.05	9.97	0 55 57.14	14.75
		Moon I	17	23.5	25.7	26.8	36.7	37.8	38.9	40.1	41.2	51.4	52.4	54.5	5 39.00	0.06	9.98	1 5 49.04	. .
		Polaris	18	27.0	47.5	39.5	1.5	45.0	35.5	24.5	9.0	40.5	28.0	52.0	9 37.27	18.53	9.98	1 10 5.78	70.10
	η	Piscium	19	51.3	53.4	54.7	4.4	5.4	6.7	8.0	9.0	19.0	20.1	22.3	24 6.75	0.12	9.99	1 24 16.86	14.94
	o	Piscium	20	51.9	53.9	55.3	4.8	5.7	7.0	8.2	9.2	19.0	20.3	22.3	38 7.05	+ 0.06	10.00	1 38 17.11	14.74
E.		(*) — 26° 4′	21	16.5	18.4	19.8	30.1	31.4	32.8	34.0	35.2	45.9	46.1	49.5	26 32.70	— 0.23	10.11	3 26 42.58	11.44
		Lacaille 1171	22	53.4	55.7	57.2	8.1	9.2	10.4	11.9	13.3	24.1	25.5	27.7	34 10.59	— 0.26	10.12	3 34 20.45	11.00
	η	Tauri	23	3.1	5.2	6.9	17.0	18.0	19.3	20.6	21.9	32.3	33.5	35.8	39 19.42	+ 0.20	10.13	3 39 29.75	15.84
	ε	Tauri	24	. .	. .	. .	41.6	42.7	43.9	45.0	46.1	55.8	57.1	59.0	40 48.90	— 4.96	10.13	3 40 54.07	14.68
		O. Arg. S. 2623	25	. .	. .	. .	56.4	57.5	58.6	0.1	1.4	11.9	12.9	15.1	48 4.24	5.62	10.13	3 48 8.75	11.44
		Mars I	26	36.0	37.4	38.8	40.0	42.4	. .	47.9	50.3	51.9	53.2	54.5	55 15.24	— 0.06	10.14	3 55 25.32	. .
		Mars II	27	59.8	1.8	3.4	13.5	14.6	16.0	17.3	18.6	28.8	30.1	32.2	55 16.01	+ 0.19	10.14	3 55 26.34	. .
	γ	Tauri	28	43.0	45.0	46.3	56.3	57.3	58.4	59.7	0.7	10.7	11.9	14.0	11 58.48	0.12	10.15	4 12 8.75	15.13
	ε	Tauri	29	20.0	22.3	23.5	33.7	34.7	35.9	37.2	38.3	48.4	49.8	51.8	20 35.96	0.15	10.16	4 20 46.27	15.48
	α	Tauri	30	46.9	48.7	50.0	59.7	0.9	2.0	3.3	4.5	14.7	16.0	18.1	28 2.25	+ 0.13	10.17	4 28 12.55	15.19
	μ	Eridani	31	42.1	43.8	45.2	34.4	35.6	36.8	38.0	39.1	48.5	49.8	51.9	38 36.84	— 0.03	10.18	4 38 46.99	13.21
	ι	Aurigæ	32	. .	. .	. .	1.6	2.8	4.2	5.4	7.0	18.1	19.7	22.1	48 10.11	5.61	10.19	4 48 14.69	17.10
	δ	Ursæ Minoris, S. P.	33	. .	. .	. .	. .	. .	. .	. .	. .	40.5	2.0	34.5	19 5.67	3 49.49	10.26	6 15 26.44	70.58
		Euterpe	34	. .	. .	. .	50.2	51.7	53.9	10.3	12.9	14.3	15.6	17.1	41 5.75	28.22	10.28	6 40 47.81	. .
Y.	α	Ophiuchi	35	26.4	27.6	28.7	29.9	30.9	. .	59.7	2.2	3.4	4.8	6.1	28 45.97	17.11	10.52	17 28 39.38	14.56
5		Sun I	36	31.6	33.9	35.0	45.5	46.5	47.9	49.2	50.4	0.7	2.1	4.3	5 47.92	0.20	10.60	19 5 58.32	. .
		Sun II	37	53.3	55.4	56.7	7.2	8.2	9.5	10.5	11.8	22.4	23.7	25.9	8 9.51	— 0.20	10.60	19 8 19.91	. .
	α	Cygni	38	16.8	19.6	21.3	31.8	36.0	37.7	39.4	41.0	44.4	46.1	49.0	36 37.83	+ 0.45	10.67	20 36 48.95	11.15
	β	Cephei	39	56.8	2.7	6.4	33.9	36.9	40.4	44.0	47.2	15.2	18.5	24.5	26 40.59	1.25	10.71	21 26 52.55	5.82
	ε	Pegasi	40	7.1	9.1	10.5	20.0	21.0	22.2	23.5	24.5	34.2	35.4	37.6	37 22.28	+ 0.07	+10.71	21 37 33.06	+ 15.03

3. Very unsteady.

January 1–12. Observations made clamp east.

January 5, 7h. Image west 0.04. Clamp east.
Image west 0.22. Clamp west.
7h. 30m. Reduced the azimuth cor.

January 4, 19h. to 5h. n. = + 0.46.
5h. to 7h. 0.37.
4–5, 17h. to 3h. 0.46.
5h. to 7h. + 0.37.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Jan. 4, 23.0	+ 9.88	+ 0.046	— 0.006
4.3	10.16	0.051	
5, 1.9	+ 10.91	+ 0.046	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 5	Venus I	1	36.9	39.3	40.6	50.4	51.4	52.5	53.8	54.9	4.9	6.1	8.2	57 52.64	— 0.12	+10.73	21 58 3.25	+ 0.55
E.	Polaris	2	..	..	..	4.5	45.0	32.0	20.5	2.5	..	..	..	9 32.90	+ 20.41	10.89	1 10 4.20	70.49
	ν Piscium	3	59.5	1.5	2.8	12.2	13.2	14.5	15.7	16.7	26.3	27.5	29.5	34 14.49	0.03	10.91	1 34 25.43	14.61
	o Piscium	4	51.0	53.0	54.4	3.9	4.9	6.0	7.3	8.4	18.2	19.2	21.4	38 6.15	0.07	10.91	1 38 17.13	14.76
	β Arietis	5	45.4	47.4	49.2	59.0	0.0	1.3	2.5	3.7	13.9	15.0	17.3	47 1.34	0.16	10.92	1 47 12.42	15.24
	50 Cassiopeæ	6	1.7	8.0	12.0	41.6	45.1	49.2	53.2	56.9	27.4	31.0	37.0	51 49.37	1.38	10.92	1 52 1.67	21.26
	Moon I	7	38.5	40.2	41.8	51.6	52.9	54.1	55.3	56.4	6.4	7.7	10.0	1 54.08	0.10	10.93	2 2 5.11	..
	ξ^1 Ceti	8	26.2	28.1	29.3	38.8	39.8	41.1	42.3	43.4	52.9	54.3	56.3	5 41.12	+ 0.06	10.93	2 5 52.11	14.64
	Lalande 4410	9	17.9	19.8	21.3	31.2	32.2	33.5	34.7	35.9	46.0	47.1	49.3	15 33.54	— 0.16	10.94	2 15 44.32	13.14
Y.	Uranus	10	4.0	6.1	7.6	18.0	19.0	20.3	21.6	22.7	33.3	34.6	36.8	45 20.36	+ 0.16	11.08	5 45 31.60	..
	α Orionis	11	40.6	41.5	42.8	43.9	45.0	..	13.3	15.7	16.9	18.2	19.6	47 59.75	— 16.90	11.09	5 47 53.94	14.17
	ν Orionis	12	27.3	29.4	30.7	40.4	41.5	42.7	44.0	45.1	55.1	56.3	58.4	59 42.81	+ 0.09	11.10	5 59 54.00	+ 14.98
	δ Ursæ Minoris, S. P.	†13	9.5	..	..	46.0	..	24.0	..	0.0	..	..	34.0	15 22.70	— 6.32	11.11	6 15 27.49	— 70.62
	51 Cephei	†14	..	..	..	38.5	59.0	25.0	47.5	9.0	..	..	..	36 23.70	+ 8.51	11.13	6 36 43.34	+ 118.43
	ϵ Canis Majoris	15	7.9	9.0	10.3	11.6	12.9	..	45.0	47.7	49.2	50.6	52.0	53 29.62	— 19.37	11.14	6 53 21.39	9.63
	γ Canis Majoris	†16	..	..	..	27.8	28.8	30.1	31.4	32.4	..	..	..	57 30.10	— 0.06	11.14	6 57 41.19	11.53
7	Weisse 295	17	13.2	15.2	16.5	26.1	27.2	28.3	29.5	30.6	40.3	41.6	43.7	17 28.38	+ 0.03	12.96	3 17 41.37	14.64
	Weisse 334	18	..	..	..	53.4	54.7	56.8	12.1	14.6	15.8	17.2	18.6	20 7.90	— 26.58	12.97	3 19 54.29	14.85
	f Tauri	19	..	..	..	26.1	27.3	29.5	45.0	47.4	48.7	50.0	51.5	23 40.69	— 26.60	12.97	3 23 27.06	14.87
	Weisse 575	20	..	..	..	54.0	55.3	56.5	57.8	0.1	..	..	..	30 56.74	+ 33.21	12.98	3 31 42.93	14.02
	Weisse 580	21	27.1	29.1	30.4	39.8	40.8	42.0	43.2	44.3	53.9	55.1	57.2	31 42.08	0.00	12.98	3 31 55.06	14.02
8	Pleiadum	22	45.0	47.2	48.6	..	..	..	..	..	14.2	15.4	17.7	38 1.35	0.04	12.98	3 38 14.37	15.86
9	Pleiadum	23	..	..	..	1.0	2.2	3.4	4.6	5.6	..	..	..	38 3.36	0.13	12.98	3 38 16.47	15.86
η	Tauri	24	0.3	2.4	3.9	14.1	15.3	16.6	17.9	19.1	29.6	30.9	33.0	39 16.65	+ 0.08	12.99	3 39 29.72	15.86
γ	Eridani	25	17.1	19.0	20.3	30.1	31.1	32.4	33.5	34.6	44.7	45.8	47.9	51 32.41	— 0.05	13.00	3 51 45.36	12.46
	Mars I	26	43.6	45.1	46.5	47.8	50.1	..	55.5	58.0	59.5	0.9	2.3	55 22.93	— 0.18	13.00	3 55 35.75	..
	Mars II	27	7.4	9.5	10.9	21.2	22.3	23.5	25.0	26.1	36.5	37.8	40.0	55 23.65	+ 0.07	13.00	3 55 36.72	..
	Moon I	28	43.2	45.3	46.6	56.9	57.9	59.3	0.5	1.7	12.2	13.5	15.7	56 59.35	+ 0.06	13.01	3 57 12.42	..
	* — 28° 9′	29	24.8	26.9	28.4	39.2	40.3	41.6	42.9	44.0	55.1	56.4	58.6	3 41.65	— 0.11	13.01	4 3 54.55	10.72
	* + 31° 21′	30	21.9	23.6	25.0	26.3	29.0	..	39.4	42.3	43.8	45.2	46.7	6 4.32	— 0.15	13.01	4 6 17.18	16.77
	Weisse (2) 118	31	53.8	56.2	57.6	8.6	9.8	11.2	12.7	14.0	25.2	26.6	29.0	7 11.34	+ 0.11	13.02	4 7 24.47	16.77
	Weisse (2) 120	32	32.0	33.7	35.1	36.5	39.3	..	49.5	52.5	53.9	55.3	56.9	7 14.47	— 0.15	13.02	4 7 27.34	16.77
γ	Tauri	33	40.1	42.2	43.6	53.4	54.4	55.6	56.8	57.9	7.8	9.0	11.3	11 55.65	+ 0.05	13.02	4 12 8.72	15.14
	Weisse (2) 350	34	..	..	..	13.6	15.0	17.4	34.8	37.6	38.9	40.5	41.9	17 29.96	— 29.69	13.03	4 17 13.30	16.56
ϵ	Tauri	35	17.3	19.4	20.8	30.7	31.8	33.0	34.3	35.4	45.5	46.9	49.0	20 33.10	+ 0.06	13.03	4 20 46.19	15.49
	Weisse (2) 512	36	41.7	44.0	45.5	55.8	57.0	58.3	59.6	0.8	11.5	12.8	15.0	23 58.36	0.08	13.03	4 24 11.47	16.10
	Weisse (2) 620	37	41.6	43.9	45.2	56.7	56.8	58.1	59.5	0.6	11.4	12.6	14.9	28 58.21	+ 0.08	13.04	4 29 11.33	16.17
	Lacaille 1553	38	5.6	8.2	9.6	22.1	23.3	24.8	26.3	27.7	39.9	41.6	44.1	35 24.84	— 0.16	13.05	4 35 37.73	8.58
	Lacaille 1564	39	27.7	29.9	31.4	42.4	43.6	45.0	46.3	47.5	58.8	0.1	2.5	37 45.02	— 0.12	13.05	4 37 57.95	9.90
	* + 10° 44′	40	0.5	1.8	3.2	4.4	6.7	..	..	..	..	..	..	40 3.32	+ 33.81	13.05	4 40 50.18	14.62
	* + 10° 43′	41	14.3	15.6	17.9	18.2	20.5	..	21.5	24.1	25.4	26.8	28.0	40 51.23	— 0.20	13.05	4 41 4.08	14.62
	* + 10° 43′	42	..	..	..	51.1	52.2	53.4	54.6	55.6	..	..	..	40 53.39	+ 0.08	13.05	4 41 6.52	14.62
	* + 10° 43′	43	40.6	42.6	43.9	..	..	..	..	..	7.9	9.1	11.1	40 55.87	— 0.01	13.05	4 41 8.91	14.62
	Weisse (2) 1047	44	2.2	4.5	6.0	16.7	17.8	19.0	20.4	21.6	32.5	33.8	36.3	47 19.16	+ 0.09	13.06	4 47 32.31	16.45
	Weisse 1278	45	28.0	30.0	31.2	40.8	41.8	42.9	44.0	45.1	54.9	56.0	58.2	54 42.99	+ 0.01	13.07	4 54 56.07	14.11
ϵ	Leporis	46	17.4	29.5	21.1	31.1	32.3	33.6	34.9	36.0	46.4	47.6	50.0	59 33.63	— 0.09	13.07	4 59 46.61	10.89
	* — 26° 18′	47	24.6	27.0	28.4	38.9	40.0	41.3	42.6	43.7	54.5	56.0	58.3	35 41.39	0.10	13.11	5 35 54.40	10.14
	* + 25° 43′	48	..	..	..	27.3	28.3	29.7	31.0	32.2	43.1	44.4	46.5	41 35.31	5.38	13.12	5 41 43.05	+ 16.27
	Uranus I	49	18.4	19.7	21.1	22.5	25.0	..	30.7	33.1	34.6	36.0	37.4	44 57.85	— 0.17	13.12	5 45 10.80	..
	Uranus II	50	41.8	43.9	45.2	55.4	56.6	57.9	59.2	0.4	10.8	12.3	14.4	44 57.99	+ 0.08	+13.12	5 45 11.19	..

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Jan. 7,	6.2	+ 13.15	+ 0.064	— 0.006

13. Faint; through clouds.
14. Faint.
16. Cloudy.

s.
January 7, n. = +0.19.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 7		O. Arg. S. 4453	1	51.4	53.8	55.1	6.0	7.0	8.4	9.8	11.0	22.1	23.5	25.7	50 8.53	— 0.11	+13.13	5 50 21.55	+ 9.66
Y.		O. Arg. S. 4499	2	. .	. .	. .	16.7	47.8	49.2	50.5	51.8	2.8	4.2	6.5	52 54.94	— 5.76	13.13	5 53 2.29	9.62
	ν	Orionis	3	25.5	27.5	28.7	38.6	39.6	40.8	42.1	43.1	53.2	54.3	56.5	59 40.90	+ 0.04	13.14	5 59 54.08	14.97
		Lacaille 2178	4	13.3	15.7	17.1	28.7	30.0	31.4	33.0	34.1	45.9	47.3	48.8	5 31.39	— 0.14	13.14	6 5 44.39	+ 8.61
	δ	Ursæ Minoris, S. P.	5	2.0	37.5	57.0	40.5	59.0	18.5	38.5	55.5	35.0	56.5	29.0	15 17.17	3.10	13.15	6 15 27.22	— 70.66
		O. Arg. S. 5289	6	45.8	47.9	49.3	59.8	1.0	2.3	3.6	4.8	15.6	16.8	19.3	28 2.38	0.10	13.17	6 28 15.45	+ 10.00
		Lacaille 2355	7	24.7	26.9	28.4	39.2	40.3	41.7	43.0	44.3	55.3	56.6	58.9	30 41.76	0 11	13.17	6 30 54.82	9.61
		O. Arg. S. 5450	8	32.1	34.1	35.6	. .	. .	. .	. .	. .	1.3	2.5	4.7	33 48.38	0.13	13.17	6 34 1.42	10.39
		O. Arg. S. 5463	9	. .	. .	. .	21.0	22.2	24.4	41.1	43.7	45.0	46.3	47.6	34 36.41	— 2 8.46	13.17	6 34 21.12	10.39
		Euterpe	10	13.5	15.6	17.1	27.6	28.6	29.8	31.1	32.2	42.8	44.0	46.4	37 29.88	+ 0.08	13.18	6 37 43.14	. .
		Lacaille 2479	11	48.7	51.0	52.6	. .	. .	. .	. .	. .	20.4	21.6	23.8	45 6.35	— 0.16	13.19	6 45 19.38	9.15
		*—31° 33′	12	. .	. .	. .	6.7	8.0	9.4	10.7	11.9	. .	. .	. .	45 9.34	0.07	13.19	6 45 22.46	9.15
		Lacaille 2519	13	45.8	48.0	49.5	0.5	1.8	3.2	4.6	5.9	17.3	18.6	20.9	49 3.28	0.12	13.19	6 49 16.35	9.15
		Lacaille 2528	14	20.1	22.4	23.9	35.1	36.2	37.7	39.0	40.3	51.5	52.8	55.3	50 37.66	0.12	13.19	6 50 50.73	9.14
	ε	Canis Majoris	15	51.4	53.6	55.0	5.9	7.1	8.4	9.7	10.9	22.1	23.3	25.7	53 8.46	0.11	13.19	6 53 21.54	9.62
	γ	Canis Majoris	16	12.5	14.5	15.9	25.8	26.7	27.9	29.1	30.3	40.3	41.4	43.6	57 28.00	0.06	13.20	6 57 41.14	11.51
	ϵ	Bootis	17	. .	. .	. .	48.9	50.0	51.4	52.9	54.0	5.0	6.3	8.5	38 57.12	— 5.50	13.69		13.28
E. 8	α	Lyræ	18	46.9	49.0	51.0	2.3	3.7	5.3	7.0	8.7	20.9	22.4	24.8	32 5.64	+ 0.15	. .		11.29
9		Sun I	19	. .	. .	. .	9.9	11.1	12.5	13.7	14.9	25.4	26.3	28.3	23 17.76	— 5.44	15.19	19 23 27.51	. .
		Sun II	†20	. .	. .	. .	30.9	32.2	33.7	34.8	35.8	46.3	47.6	49.9	25 38.90	— 5.44	15.19	19 26 48.65	. .
10	γ	Geminorum	21	32.1	34.3	35.6	45.5	46.5	47.8	49.0	50.1	0.1	1.3	3.5	28 47.80	+ 0.05	69.15		15.11
Y.		Moon I	22	9.2	11.3	12.6	23.0	24.1	25.4	26.6	27.7	38.1	39.4	41.5	48 25.35	0.06	69.17	6 49 34.58	. .
	ζ	Geminorum	†23	43.0	45.3	46.5	56.6	57.6	58.9	0.2	1.3	11.7	12.9	15.2	54 59.02	0.07	69.18	6 56 8.27	15.55
E.	α	Lyræ	24	19.0	21.4	23.0	35.1	36.5	38.1	39.7	40.9	53.1	54.7	57.4	31 38.08	+ 0.15	42.68		11.28
11		Sun I	25	. .	. .	. .	23.6	24.7	25.9	27.0	28.3	38.6	39.9	42.1	31 31.26	— 5.43	42.76	19 32 8.59	. .
		Sun II	26	30.5	32.5	34.0	44.1	45.2	46.7	47.8	49.0	59.5	0.7	2.9	33 46.63	0.08	42.76	19 34 29.31	. .
	α	Cygni	27	. .	. .	. .	. .	. .	. .	48.5	51.8	53.4	55.3	57.4	36 53.28	47.23	42.84	20 36 48.89	11.17
		Venus I	28	0.4	2.5	3.9	13.4	14.4	15.7	16.9	18.0	27.8	29.1	31.0	24 15.74	— 0.04	42.98	22 24 58.68	0.57
	α	Pegasi	29	3.9	5.8	7.2	17.0	18.1	19.2	20.3	21.5	31.4	32.6	34.7	57 19.25	+ 0.04	43.03	22 58 2.32	14.84
Y.	α	Andromedæ	30	25.2	27.5	29.0	39.6	40.8	42.2	43.6	44.7	5.7	7.1	9.4	0 42.25	+ 0.10	43.09	0 1 25.44	14.88
	β	Ceti	31	50.0	52.1	53.5	3.6	4.6	5.8	7.1	8.2	18.6	19.7	22.0	36 5.93	— 0.07	43.13	0 36 48.99	14.75
		Polaris	32	0.0	20.5	12.5	38.0	18.0	8.5	56.5	37.5	15.0	3.0	24.5	9 10.36	+ 7.51	43.18		75.69
	β	Arietis	33	13.0	15.2	16.6	26.7	27.8	29.1	30.3	31.5	. .	. .	. .	46 23.78	5.37	43.23	1 47 12.38	15.32
E.	ζ	Persei	34	40.1	42.4	43.7	54.8	56.0	57.6	58.9	0.2	11.4	12.8	15.3	44 57.56	+ 0.09	43.41	3 45 41.06	16.72
	γ^1	Eridani	35	46.5	48.7	49.9	59.5	0.7	1.9	3.1	4.3	14.2	15.4	17.5	51 1.97	— 0.05	43.42	3 51 45.34	12.50
		Mars I	36	11.8	13.3	14.7	16.0	18.4	. .	23.8	26.5	27.9	29.3	30.6	55 51.23	— 0.19	43.42	3 56 34.46	. .
		Mars II	37	35.6	37.7	39.0	49.2	50.5	51.8	53.0	54.0	4.6	5.8	7.9	55 51.74	+ 0.06	43.42	3 56 35.22	. .
		*+22° 6′	38	36.9	38.8	40.4	50.8	51.8	53.1	54.4	55.7	6.1	7.3	9.4	57 53.16	+ 0.06	43.43	3 58 36.65	15.78
	o^1	Eridani	39	. .	. .	. .	. .	. .	. .	5.2	7.6	9.0	10.3	11.5	5 8.72	— 33.95	43.44	4 5 18.21	13.03
		*—6° 53′	40	. .	. .	. .	. .	. .	. .	54.0	56.0	57.4	58.8	59.9	5 57.22	33.92	43.44	4 6 6.74	13.06
	γ	Tauri	41	. .	. .	. .	23.3	24.0	25.3	26.5	27.6	37.4	38.7	40.8	11 30.45	5.10	43.44	4 12 8.79	15.17
		O. Arg. S. 3044	42	1.6	3.7	5.4	15.8	17.1	18.4	20.0	21.0	30.9	33.3	34.5	17 18.34	— 0.09	43.45	4 18 1.70	10.60
	ϵ	Tauri	43	47.0	49.0	50.3	0.4	1.4	2.7	4.0	5.0	15.1	16.3	18.8	20 2.73	+ 0.05	43.45	4 20 46.26	15.52
		Lacaille 1485	44	35.6	38.1	39.5	50.3	51.4	52.6	54.0	55.2	6.5	7.7	9.9	23 52.80	— 0.09	43.46	4 24 36.17	10.36
		Lacaille 1491	45	58.9	1.2	2.6	13.3	14.6	16.0	17.6	18.7	29.7	30.9	33.3	25 16.07	0.09	43.46	4 25 59.44	10.35
	α	Tauri	46	. .	. .	. .	26.5	27.8	28.9	30.3	31.5	41.4	42.9	44.7	27 34.25	5.12	43.47	4 28 12.60	15.22
	ι	Aurigæ	47	. .	. .	. .	45.3	46.6	49.1	6.8	9.9	11.2	12.9	14.5	48 2.04	30.89	43.49	4 48 14.64	17.13
		O. Arg. S. 3576	48	42.0	44.2	45.6	56.5	57.7	59.2	0.4	1.6	12.7	14.0	16.4	53 59.12	0.10	43.50	4 54 42.52	9.94
	11	Orionis	49	. .	. .	. .	7.6	8.7	9.9	11.1	12.0	22.2	23.2	25.4	56 15.01	— 5.10	+43.50	4 56 53.41	+ 15.08

20. Through clouds.
23. Cloudy.

s.
January 9–10, n. = + 0.19.
10, 6h. 15m. Found the clock had stopped; started it at 6h. 21m.
11. Before 3h. n. = + 0.19
3h. to 5h. 0.16
After 5h. + 0.11

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Jan. 8, 18.5	+ 15.13	+ 0.070	— 0.006
10, 6.5	69.15	0.070	
11, 3.4	+ 43.38	+ 0.079	

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 11	ϵ	Leporis	1	46.8	49.2	50.6	0.8	1.9	3.1	4.3	5.5	15.9	17.2	19.4	59 3.15	— 0.07	+43.51	4 59 46.59	+ 10.91
E		O. Arg. S. 3710	2	21.2	23.5	24.9	35.3	36.5	37.8	39.0	40.4	51.1	52.3	54.4	2 37.85	0.06	43.51	5 3 21.30	10.47
	α	Aurigæ	3	..	..	..	58.9	0.4	2.2	3.9	5.7	19.1	20.6	23.8	6 9.32	7.00	43.51	5 6 45.83	19.25
	β	Orionis	4	..	..	..	..	..	..	51.9	54.4	55.8	57.1	58.3	7 55.50	34.02	43.51	5 8 4.99	12.54
		* — 27° 31′	5	..	..	..	10.3	11.7	14.3	30.7	33.9	35.3	37.0	38.5	12 26.46	— 29.39	43.52	5 12 40.59	10.12
	β	Tauri	6	47.2	49.7	51.1	1.6	3.0	4.1	5.5	6.7	17.8	19.0	21.4	17 4.28	+ 0.05	43.53	5 17 47.86	16.69
		O. Arg. S. 4003	7	57.0	59.1	0.6	11.6	12.9	14.1	15.5	16.8	27.8	29.2	31.6	23 14.20	— 0.07	43.54	5 23 57.67	9.63
		Lalande 10426	8	..	..	..	13.3	14.4	16.7	31.8	34.2	35.5	36.8	38.0	25 27.59	26.02	43.54	5 25 45.51	13.40
	α	Columbæ	9	46.2	48.5	50.1	1.6	2.9	4.3	5.5	6.8	18.5	19.9	21.8	34 4.19	0.08	43.55	5 34 47.66	8.89
		O. Arg. S. 4264	10	53.3	55.5	57.0	7.5	8.6	10.1	11.3	12.4	23.5	24.6	26.9	38 10.06	0.06	43.56	5 38 53.56	9.94
		Uranus	11	45.0	46.1	47.6	48.7	49.9	..	20.2	23.0	24.4	25.9	27.4	44 5.82	— 18.29	43.57	5 44 31.10	..
	α	Orionis	12	55.2	57.3	58.7	8.3	9.2	10.3	11.6	12.7	21.2	23.5	25.5	47 10.32	+ 0.01	43.57	5 47 53.90	14.16
		O. Arg. S. 4474	13	44.9	47.0	48.3	59.2	0.6	1.6	3.0	4.2	15.4	16.6	18.7	51 1.77	— 0.07	43.57	5 51 45.27	9.71
		O. Arg. S. 4534	14	10.9	13.2	14.6	25.1	26.3	27.7	29.2	30.4	41.0	42.5	44.7	54 27.78	0.06	43.58	5 55 11.30	9.82
		* — 28° 37′	15	24.3	26.4	28.0	..	..	..	..	..	54.5	56.0	58.1	58 41.22	0.11	43.58	5 59 24.69	9.69
		* — 28° 36′	16	..	..	..	36.6	37.7	38.7	40.1	41.5	..	..	..	58 38.92	0.02	43.58	5 59 22.48	+ 9.69
	δ	Ursæ Minoris, S. P.	17	..	6.0	25.0	6.5	26.0	47.0	7.5	24.0	2.5	24.5	..	14 45.44	1.92	43.61	..	— 70.76
		68 Geminorum	18	..	..	..	..	..	..	44.1	46.6	48.0	49.4	50.8	25 47.78	— 34.98	43.62	7 25 56.42	+ 14.95
	α	Canis Minoris	19	17.6	19.6	20.9	30.2	31.3	32.5	33.7	34.7	44.4	45.7	46.7	31 32.57	0.00	43.70	7 32 15.27	13.58
		B. A. C. 2526	20	0.2	2.0	3.5	12.8	13.9	15.1	16.2	17.3	27.1	28.2	30.3	32 15.15	0.00	43.70	7 32 58.85	13.82
		Moon II	21	5.3	7.3	8.7	18.8	19.7	21.0	22.5	23.4	33.7	35.1	37.5	45 21.18	+ 0.03	43.72	7 46 4.93	..
	1	Cancri	22	22.4	24.5	25.7	35.5	36.6	37.8	39.0	40.2	50.2	51.4	53.6	48 37.90	0.03	43.72	7 49 21.65	14.90
	5	Cancri	23	51.2	53.5	54.9	4.3	5.5	6.9	8.1	9.3	19.3	20.3	22.6	53 6.90	0.03	43.74	7 53 50.67	14.96
Y.	α	Herculis	24	29.4	31.4	32.7	42.5	43.6	44.9	46.1	47.2	57.0	58.3	0.4	7 44.86	0.03	44.18	17 8 29.07	14.16
	α	Ophiuchi	25	40.0	42.0	43.3	53.0	54.0	55.2	56.5	57.5	7.5	8.6	10.7	27 55.30	0.03	44.21	17 28 39.54	14.43
	α	Lyræ	26	17.5	20.0	21.7	33.6	34.8	36.3	38.0	39.4	41.5	43.1	45.8	31 36.52	+ 0.12	44.28	18 32 20.92	11.26
12		Sun I	27	27.9	30.0	31.2	41.7	42.7	43.9	45.1	46.4	56.6	57.9	59.9	35 43.94	— 0.07	44.36	19 36 28.23	..
		Sun II	28	48.4	50.6	51.9	2.2	3.2	4.6	5.7	6.9	17.2	18.5	20.8	38 4.55	— 0.07	44.36	19 38 48.84	..
	β	Cephei	29	23.6	29.7	33.1	0.7	3.5	7.0	11.1	14.0	42.0	45.7	51.2	26 7.42	+ 0.45	44.49	21 26 52.36	6.05
	α	Aquarii	30	51.3	53.3	54.5	4.0	5.0	6.2	7.3	8.4	18.0	19.2	21.2	58 6.22	— 0.01	44.52	21 58 50.73	15.68
	9	Pleiadum	31	..	..	..	29.1	30.2	31.4	32.7	34.0	..	..	..	37 31.50	+ 0.09	44.92	3 38 16.51	15.92
	10	Pleiadum	32	..	..	..	40.1	41.3	42.5	43.9	45.0	..	..	..	37 42.56	+ 0.09	44.92	3 38 27.57	15.92
		* + 23° 45′	33	..	..	..	..	..	..	17.5	20.2	21.7	23.3	24.4	39 21.42	— 36.73	44.92	3 39 29.61	15.93
	η	Tauri	34	28.4	30.6	31.9	42.2	43.4	44.7	45.9	47.0	57.7	58.9	1.1	38 44.71	+ 0.04	44.92	3 39 29.67	15.93
	29	Pleiadum	35	..	..	..	42.3	43.4	44.8	46.1	47.1	..	..	..	39 44.74	0.09	44.92	3 40 29.75	15.93
	32	Pleiadum	36	14.8	17.0	18.3	33.7	34.9	36.2	37.4	38.6	44.1	45.1	47.7	40 36.19	0.04	44.92	3 41 21.15	15.93
	37	Pleiadum	37	..	..	..	8.5	9.6	10.9	12.3	13.4	..	..	..	41 10.94	+ 0.09	44.92	3 41 55.95	15.93
		O. Arg. S. 2637	38	43.0	45.2	46.6	56.8	57.9	59.2	0.4	1.5	12.0	13.1	15.2	47 59.17	— 0.05	44.93	3 48 44.05	11.89
		O. Arg. S. 2695	39	18.9	21.2	22.5	33.4	34.5	35.9	37.3	38.3	49.3	50.7	52.8	51 35.89	— 0.07	44.93	3 52 20.75	10.93
		Mars I	40	55.5	57.6	59.1	9.2	10.5	11.7	13.0	14.1	24.7	26.0	28.2	56 11.78	+ 0.04	44.94	3 56 56.76	..
		Mars II	41	33.7	34.0	36.4	37.6	40.2	..	45.6	48.2	49.7	50.9	52.3	56 12.86	— 0.21	44.94	3 56 57.59	..
	γ	Tauri	42	8.2	10.2	11.6	21.4	22.4	23.7	25.0	26.0	36.0	37.2	39.3	11 23.73	+ 0.02	44.96	4 12 8.71	15.17
		* — 31° 40′	43	..	..	..	19.5	20.9	23.4	41.2	44.1	45.4	47.0	48.5	13 36.25	— 30.64	44.96	4 13 50.57	10.67
		O. Arg. S. 3044	44	0.0	2.2	3.6	14.4	15.5	16.9	18.2	19.4	30.4	31.8	34.0	17 16.95	0.07	44.96	4 18 1.84	10.62
		Lacaille 1485	45	34.2	36.6	37.9	48.8	50.0	51.4	52.7	53.9	5.0	6.2	8.6	23 51.39	0.07	44.97	4 24 36.29	10.36
		Lacaille 1491	46	57.5	59.8	1.1	12.1	13.3	14.7	15.9	17.1	28.1	29.5	31.8	25 14.63	0.07	44.97	4 25 59.53	10.36
		* — 30° 50′	47	50.9	53.2	54.6	5.7	6.9	8.3	9.7	10.8	22.1	23.6	26.0	28 8.35	0.07	44.98	4 28 53.26	10.09
	υ^6	Eridani	48	17.6	19.9	21.3	32.3	33.5	35.0	36.3	37.5	48.6	50.2	52.5	29 34.97	0.07	44.98	4 30 19.88	10.07
		Lacaille 1553	49	33.6	36.0	37.6	50.0	51.2	52.8	54.1	55.6	8.1	9.4	12.2	34 52.78	0.10	44.99	4 35 37.67	8.65
		B. A. C. 1471	50	49.3	51.6	52.9	3.8	4.9	6.2	7.5	8.8	19.6	20.9	23.2	38 6.25	— 0.06	+44.99	4 38 51.18	+ 10.40

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Jan. 12,	1.8	+ 44.79	+ 0.070	— 0.006

s.
January 11–12, 17h. to 3h. n. = + 0.16
12. After 3h. + 0.11

DATE.	OBJECTS.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 12	O. Arg. S. 3389 . .	1	40.4	42.7	44.2	55.2	56.3	57.6	58.9	0.1	11.4	12.5	15.0	40 57.66	— 0.07	+44.99	4 41 42.58	+ 10.11
Y.	Lacaille 1610 . .	2	. .	.	. .	28.1	29.4	30.8	32.2	33.6	45.3	46.8	49.3	43 36.94	6.09	45.00	4 44 15.85	9.33
	Weisse 986 . . .	3	. .	. .	. .	. .	. .	. .	41.4	43.8	45.1	46.8	47.8	45 44.90	— 34.00	45.00	4 45 55.90	14.40
	Weisse 1028 . . .	4	37.8	39.7	41.0	50.5	51.7	52.9	54.1	55.0	4.8	6.0	8.0	46 52.86	+ 0.01	45.00	4 47 37.87	14.40
	O. Arg. S. 3513 . .	5	26.0	28.3	29.7	40.4	41.5	42.9	44.2	45.4	56.4	57.8	59.8	49 42.95	— 0.07	45.00	4 50 27.88	10.27
	* + 6° 0′ . . .	6	0.4	2.5	3.7	13.3	14.4	15.5	16.7	17.7	27.3	28.5	30.7	53 15.52	0.00	45.01	4 54 0.53	14.14
	(* 129) W. . . .	7	56.1	58.0	59.2	8.7	9.7	11.0	12.2	13.2	22.8	24.0	26.2	54 11.01	0.00	45.01	4 54 56.02	14.13
	Lacaille 1704 . .	8	18.0	20.1	21.6	32.1	33.0	34.3	35.7	36.9	47.6	48.7	51.1	57 34.46	— 0.06	45.01	4 58 19.41	10.67
	Weisse (2) 49 . .	9	58.3	0.7	2.1	13.1	14.2	15.6	16.9	18.1	29.4	30.7	33.0	3 15.66	+ 0.06	45.02	5 4 0.74	16.83
	Weisse (2) 111 . .	10	36.7	38.8	40.3	51.3	52.5	53.9	55.2	56.5	7.6	8.9	11.4	4 53.92	+ 0.06	45.02	5 5 39.00	16.83
	Lacaille 1774 . .	11	6.8	8.8	10.3	21.3	22.4	23.8	25.1	26.2	37.5	38.8	41.1	9 23.81	— 0.07	45.02	5 10 8.76	9.79
	* — 25° 23′ . . .	12	. .	. .	. .	59.1	0.1	1.7	3.0	4.2	. .	. .	. .	12 1.62	0.01	45.03	5 12 46.64	10.34
	* — 25° 22′ . . .	13	45.9	48.1	49.6	. .	. .	. .	. .	. .	15.6	16.9	19.2	12 2.55	0.10	45.03	5 12 47.48	10.34
	* — 25° 22′ . . .	14	12.5	14.5	16.0	26.4	27.6	28.9	30.1	31.4	42.1	43.3	45.6	13 28.95	0.06	45.03	5 14 13.92	10.33
	β Tauri	15	. .	. .	. .	16.3	17.7	20.0	37.4	40.0	41.4	42.9	44.5	17 32.52	29.55	45.03	5 17 48.00	16.60
	O. Arg. S. 4003 . .	16	55.4	57.6	58.9	10.1	11.2	12.7	14.0	15.2	26.4	27.7	30.0	23 12.65	0.07	45.04	5 23 57.62	9.64
	α Leporis	17	47.7	49.8	51.2	1.2	2.2	3.4	4.6	5.8	15.9	17.1	19.3	26 3.47	0.04	45.04	5 26 48.47	11.35
	Lacaille 1906 . .	18	46.8	49.2	50.5	1.6	2.7	4.1	5.5	6.8	18.0	19.2	21.7	30 4.19	0.07	45.05	5 30 49.17	9.52
	Lacaille 1916 . .	19	. .	. .	. .	. .	. .	. .	16.9	19.8	21.3	22.7	24.2	32 20.98	39.37	45.05	5 32 26.66	9.43
	O. Arg. S. 4212 . .	†20	39.9	42.4	43.7	54.7	55.7	57.2	58.5	59.6	10.7	12.0	14.6	34 57.18	0.07	45.06	5 35 42.17	9.63
	* — 30° 40′ . . .	21	54.8	57.3	58.6	9.7	10.7	12.1	13.6	14.9	26.0	27.4	29.7	38 12.25	0.07	45.06	5 38 57.24	+ 9.48
	Uranus I . . .	22	56.7	58.3	59.6	0.9	4.5	. .	8.9	11.6	12.9	14.3	15.8	43 36.35	— 0.21	45.06	5 44 21.20	. .
	Uranus II . . .	23	20.0	22.2	23.5	33.8	35.0	36.3	37.6	38.8	49.3	50.6	52.8	43 36.35	+ 0.04	45.06	5 44 21.45	. .
	δ Ursæ Minoris, S. P.	24	31.5	4.0	24.5	. .	25.0	45.0	5.0	22.5	2.0	23.0	56.0	14 47.85	— 5.42	45.10		— 70.82
	γ Geminorum . . .	25	56.4	58.5	59.7	9.6	10.5	11.8	13.1	14.1	24.2	25.4	27.6	29 11.90	+ 0.03	45.12	6 29 57.05	+ 15.10
	Euterpe	26	53.4	55.5	57.0	7.4	8.6	9.8	11.1	12.3	23.0	24.2	26.5	32 9.89	+ 0.04	45.12	6 32 55.05	. .
	λ Ursæ Minoris, S. P.	27	. .	. .	. .	. .	17.0	22.0	25.0	. .	. .	. .	. .	57 21.33	— 8.45	45.22		— 221.29
	ζ Cancri, 1st * . .	28	29.1	31.2	32.4	42.6	43.6	44.7	46.0	47.2	57.4	58.6	0.7	3 44.86	+ 0.03	45.23	8 4 30.12	+ 15.04
	ζ Cancri, 2d * . .	29	7.5	8.9	10.1	11.3	13.8	. .	16.9	19.5	20.8	22.2	23.5	3 45.45	— 0.21	45.23	8 4 30.47	15.04
	B. A. C. 2843 . .	30	50.6	53.0	54.4	5.5	6.6	8.0	9.3	10.6	21.9	23.4	25.7	21 8.00	— 0.07	45.25	8 21 53.18	9.73
	η Cancri	31	54.7	56.8	58.1	8.4	9.4	10.8	12.0	13.1	23.6	24.6	26.9	24 10.76	+ 0.04	45.25	8 24 56.05	15.23
	Moon II	32	59.6	1.6	2.8	12.8	13.9	15.1	16.4	17.5	27.5	28.8	30.9	37 15.17	0.02	45.27	8 38 0.46	. .
	α Cancri	†33	7.4	9.5	10.8	20.6	21.5	22.8	23.9	25.0	34.7	36.1	38.1	50 22.76	0.02	45.28	8 51 8.06	14.39
	κ Cancri	†34	27.4	29.5	30.6	40.3	41.4	42.5	43.7	44.8	54.7	55.8	57.9	59 42.60	0.02	45.29	9 0 27.91	14.26
E.	α Lyræ	†35	16.0	18.5	20.1	32.3	33.6	35.2	36.7	38.2	49.8	51.6	54.2	31 35.11	+ 0.03	45.82		11.25
13	Sun I	36	45.8	48.0	49.4	59.8	0.9	2.0	3.3	4.4	14.7	16.0	18.0	40 2.03	— 0.06	45.90	19 40 47.87	. .
	Sun II	37	5.9	8.1	9.2	19.6	20.6	21.8	23.1	24.5	34.6	36.0	37.8	42 21.93	0.06	45.90	19 43 7.77	. .
	α Cygni	38	. .	. .	. .	. .	. .	. .	45.0	48.0	50.0	51.6	53.5	37 49.62	46.73	45.96		11.17
	Venus I	39	44.6	46.9	48.0	57.8	58.6	0.0	1.2	2.2	11.8	13.2	15.2	32 59.95	— 0.04	46.09	22 33 46.00	0.57
Tr.	γ Draconis . . .	40	15.8	18.8	20.9	36.5	37.8	39.8	41.9	43.4	58.5	0.7	4.0	52 39.83	+ 0.06	46.64	17 53 26.53	8.59
14	Sun I	†41	. .	. .	. .	16.4	17.8	19.0	20.5	21.6	. .	. .	. .	44 19.06	— 0.11	46.77	19 45 5.72	70.08
	β Cephei	42	58.5	2.1	5.3	9.0	12.1	32.1	39.4	42.6	46.6	50.0	. .	27 53.77	48.38	46.88		6.11
	ε Pegasi	43	. .	. .	. .	44.0	45.0	46.2	47.4	48.5	58.2	59.3	1.3	36 51.24	— 5.06	46.89	21 37 33.04	15.06
	α Persei	44	34.2	37.0	39.1	53.8	55.4	57.2	58.9	0.6	14.9	16.9	20.1	13 57.10	+ 0.05	47.26	3 14 44.41	18.82
	η Tauri	†45	26.0	28.2	29.6	40.0	41.1	42.5	43.7	44.9	55.1	56.6	58.8	38 42.41	0.01	47.29	3 39 9.71	15.93
	Mars I	46	46.1	48.5	50.6	0.3	1.5	2.8	4.1	5.1	15.4	16.8	18.9	57 2.74	+ 0.01	47.31	3 57 50.06	. .
	Mars II	47	. .	. .	. .	. .	. .	. .	36.3	38.6	40.0	41.1	42.5	57 39.70	— 36.08	47.31	3 57 50.93	. .
	γ Tauri	48	5.8	7.9	9.1	19.2	20.3	21.4	22.6	23.8	33.7	34.9	37.0	11 21.43	— 0.01	47.32	4 12 8.74	15.19
	ε Tauri	49	42.6	44.9	46.3	56.4	57.5	58.7	0.0	1.1	11.2	12.3	14.5	19 58.68	0.00	47.33	4 20 46.01	15.54
	* — 0° 24′ . . .	50	49.0	50.9	52.0	1.8	3.0	4.0	5.1	6.1	. .	17.0	19.0	20 2.79	+ 1.14	+47.40	5 20 51.33	+ 13.39

20. Blurred.
33. Very much blurred.
34. Blurred.
35. Tremulous.
41. Clouds for the II limb.
45. Through clouds.

January 12, 17h. 35m. Image east 0.03. Clamp east. Image west 0.13. Clamp west.

January 13–14, n. = + 0.08.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Jan. 12, 19.6	+ 45.89	+ 0.067	— 0.006
14, 5.7	+ 47.42	+ 0.065	— 0.026

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 14 Tr.	δ Orionis	1	6.1	8.0	9.3	19.0	20.1	21.3	22.5	23.6	32.9	34.0	36.0	24 21.16	— 0.03	+47.40	5 25 8.53	+ 13.37
	ε Orionis	2	21.4	23.4	24.7	34.3	35.3	36.5	37.7	38.8	48.0	49.3	51.2	28 36.44	0.03	47.41	5 28 23.82	13.26
	α Columbæ	3	42.2	44.5	45.9	57.8	58.9	0.2	1.6	2.9	14.3	15.9	18.4	34 0.24	— 0.09	47.41	5 34 47.56	8.91
	Uranus	4	58.4	0.5	1.7	12.3	13.3	14.4	16.6	17.1	27.5	28.8	31.2	43 14.65	+ 0.01	47.42	5 44 2.08	. .
	α Orionis	5	51.4	53.4	54.6	4.3	5.4	6.6	7.8	9.0	18.2	19.5	21.7	47 6.54	— 0.01	47.43	5 47 53.96	14.16
	* + 23° 55′	6	11.9	14.1	15.4	25.6	27.0	28.2	29.5	30.9	41.3	42.8	44.8	31 28.32	+ 0.01	47.47	6 32 15.80	15.96
	α Canis Majoris	7	10.9	12.4	14.3	24.4	25.5	26.6	27.7	28.8	38.0	40.1	42.0	38 26.48	— 0.05	47.48	6 39 13.91	11.13
	α Cancri	8	5.1	7.2	8.8	18.4	19.5	20.6	21.8	23.1	32.6	. .	36.0	50 19.31	+ 1.34	47.62	8 51 8.27	14.37
	Weisse (2) 639	9	29.5	31.8	33.0	42.8	44.0	45.1	46.6	47.6	57.7	59.0	0.9	29 45.27	0.00	47.67	9 30 32.94	14.66
	μ Leonis	10	2.2	4.5	5.9	16.7	17.8	19.1	20.5	22.0	. .	33.5	35.8	44 17.80	+ 1.32	47.69	9 45 6.81	15.17
	π Leonis	11	3.5	5.7	7.0	16.6	17.9	18.9	20.1	21.2	30.7	31.9	34.0	52 18.86	— 0.01	47.69	9 53 6.54	14.06
	α Leonis	12	9.4	11.7	13.0	22.6	23.8	25.0	26.2	27.3	36.9	38.2	40.3	0 24.95	0.01	47.71	10 1 12.65	14.17
	Moon II	†13	25.5	27.6	28.9	38.6	39.7	41.0	42.2	43.3	52.9	54.3	56.2	14 40.93	— 0.02	47.72	10 15 28.61	. .
E. 15	γ Draconis	14	13.1	16.4	18.2	33.7	35.4	37.3	39.2	40.9	56.2	58.2	1.3	52 37.26	+ 0.20	49.36	17 52 26.82	8.55
	α Lyræ	15	12.4	14.9	16.6	28.9	30.3	31.7	33.2	34.5	16.5	18.2	50.7	31 31.63	+ 0.12	49.38	18 32 21.13	11.29
16	Sun I	†16	35.3	37.3	38.6	49.2	50.5	51.5	52.7	53.7	3.8	4.9	7.0	52 51.32	— 0.06	49.41	19 53 40.67	. .
	Sun II	†17	55.3	57.6	58.7	9.4	10.2	11.5	12.9	13.9	24.2	25.2	27.3	55 11.48	— 0.06	49.41	19 56 0.83	. .
	α Cygni	18	38.0	40.6	42.4	56.1	57.6	59.5	0.9	2.2	15.8	17.4	20.0	35 59.14	+ 0.16	49.43	20 36 48.73	11.17
	Venus I	19	41.2	43.1	44.2	54.1	55.1	56.3	57.6	58.7	8.5	9.5	11.5	45 56.33	— 0.06	49.49	22 45 45.76	0.58
	α Pegasi	20	57.2	59.3	0.5	10.4	11.6	12.9	14.2	15.1	24.8	26.0	28.1	57 12.74	+ 0.02	49.49	22 58 2.25	14.28
	Mars I	21	49.0	51.1	52.5	2.8	3.8	5.3	6.8	7.9	18.1	19.4	21.5	58 5.29	+ 0.05	49.62	3 58 54.96	. .
	Mars II	†22	. .	. .	. .	. .	. .	. .	38.7	41.1	42.7	44.0	45.5	58 42.40	— 36.06	49.62	3 58 55.96	. .
	o^1 Eridani	23	13.2	15.3	16.7	26.4	27.5	28.7	29.9	31.0	40.3	41.7	43.6	4 28.57	0.05	49.62	4 5 18.14	13.08
	Weisse (2) 152	24	. .	. .	. .	17.7	18.8	20.0	21.2	22.2	32.1	33.3	35.2	8 25.06	— 5.15	49.62	4 9 9.53	15.22
	γ Tauri	25	3.4	5.5	6.7	16.8	18.0	19.1	20.4	21.5	31.2	32.5	34.5	11 19.05	+ 0.03	49.62	4 12 6.70	15.21
	ε Tauri	26	40.5	42.7	44.0	54.2	55.4	56.4	57.8	58.9	8.9	10.2	12.3	19 56.48	0.04	49.62	4 20 46.14	15.55
	85 Tauri	27	5.8	8.0	9.2	19.2	20.3	21.5	22.9	24.1	33.6	35.0	36.7	23 21.48	0.03	49.63	4 24 11.14	15.18
	α Tauri	28	7.1	9.4	10.5	20.4	21.5	23.0	24.3	25.1	35.2	36.6	38.3	27 22.88	+ 0.03	49.63	4 28 12.54	15.25
	μ Eridani	29	42.3	44.4	45.7	55.3	56.2	57.4	58.6	59.6	9.1	10.3	12.2	37 57.37	— 0.04	49.63	4 38 46.96	13.28
	O. Arg. N. 5260	30	28.3	31.1	32.9	48.3	. .	52.0	54.0	55.6	11.6	12.9	16.0	43 52.27	+ 0.02	49.64	4 44 41.93	20.22
	ι Aurigæ	31	. .	. .	.	. .	. .	. .	0.4	3.3	4.9	6.1	7.7	48 4.48	— 39.46	49.64	4 48 14.66	17.16
	11 Orionis	32	48.3	50.3	51.5	1.6	2.6	3.8	5.0	6.0	15.8	17.1	19.1	56 3.74	+ 0.02	49.64	4 56 53.40	15.11
	ε Leporis	33	40.9	42.9	44.1	54.9	55.9	57.2	58.4	59.5	9.8	11.2	13.4	58 57.11	— 0.11	49.64	4 59 46.64	10.95
	α Aurigæ	34	34.4	37.1	39.2	52.6	54.2	56.0	57.7	59.3	13.0	14.7	17.6	5 55.98	+ 0.16	49.65	5 6 45.79	19.28
	β Tauri	35	41.2	43.3	44.8	55.6	56.8	58.1	59.5	0.8	11.6	12.9	15.3	16 58.17	0.07	49.65	5 17 47.89	16.62
	B. A. C. 1706	36	.	. .	. .	49.6	53.9	58.1	2.2	6.5	. .	. .	. .	19 58.06	+ 0.43	49.65	5 20 48.14	33.19
	δ Orionis	37	3.9	6.1	7.1	16.6	17.6	19.0	20.2	21.2	30.4	31.9	33.7	24 18.88	— 0.03	49.65	5 25 8.50	13.38
	ε Orionis	38	19.1	21.3	22.6	31.7	33.1	34.4	35.6	36.6	46.1	47.2	49.0	28 34.25	— 0.03	49.65	5 29 23.87	13.27
	Uranus	39	37.3	39.6	40.8	51.5	52.6	54.0	55.0	56.3	6.9	8.1	10.1	42 53.84	+ 0.06	49.66	5 43 43.56	. .
	α Orionis	†40	49.0	51.1	52.2	2.1	3.0	4.4	5.5	6.4	15.8	17.4	19.4	47 4.21	0.00	49.66	5 47 53.87	14.17
	B. A. C. 1980	41	30.6	36.1	39.4	6.9	10.1	13.2	16.3	19.4	45.9	49.5	55.0	3 12.95	+ 0.43	49.67	6 4 3.05	+ 28.25
	δ Ursæ Minoris, S. P.	42	. .	. .	24.5	2.5	19.0	40.5	57.5	8.0	1.5	. .	. .	14 40.50	— 2.48	49.67	. . .	— 71.21
	* — 29° 56′	43	20.4	22.8	24.0	35.2	36.5	37.7	59.1	40.3	51.3	52.8	55.2	24 37.75	0.14	49.68	6 25 27.29	+ 9.42
	O. Arg. S. 5251	44	. .	. .	. .	. .	. .	. .	28.5	31.1	32.5	33.8	35.5	26 32.28	38.15	49.68	6 26 43.81	9.54
	* — 29° 58′	†45	. .	40.2	41.7	. .	54.2	55.5	56.9	58.0	8.7	10.3	12.4	28 57.54	2.35	49.68	6 29 44.87	9.41
	O. Arg. S. 5410	†46	33.6	36.1	37.3	48.2	49.3	50.8	52.4	53.5	4.2	5.3	7.6	31 50.75	0.13	49.68	6 32 40.30	9.77
	α Canis Majoris	47	8.6	10.8	12.1	22.0	23.3	24.5	25.8	26.8	36.4	37.8	39.7	38 24.35	— 0.08	49.68	6 39 13.95	11.12
	29 Cancri	†48	2.3	4.2	5.5	15.6	16.6	17.7	19.0	20.0	30.0	31.1	33.4	20 17.76	+ 0.02	49.68	8 21 7.46	14.61
	η Cancri	†49	. .	. .	. .	4.1	5.2	6.4	7.7	8.8	19.1	20.5	22.3	24 11.76	— 5.30	+49.68	8 24 56.14	+ 15.18

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Jan. 16, 3.7	+ 49.61	+ 0.025	— 0.026

13. Clouds.
16. Very unsteady.
17. Unsteady.
22. Badly defined.
40. Very unsteady.
45. Through clouds.
46. Faint.
48–49. Through clouds.

s.
January 15–16, n. = + 0.19

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.	
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.	
Jan. 18	θ Virginis	1	..	..	..	20.0	41.3	56.4	11.3	32.3	..	..	..	2 56.26	+ 0.06	+ 2.65	13 2 58.97	+ 14.33	
Tr.	Polaris, S. P.	2	..	..	..	29.0	10.0	0.0	45.0	30.0	..	..	..	9 58.80	— 7.67	2.65		82.62	
	α Virginis	3	..	..	..	27.0	48.0	3.9	18.9	40.0	..	..	..	18 3.56	+ 0.04	2.66	13 18 6.26	14.60	
	Moon II	4	..	..	..	26.0	48.3	4.0	19.4	40.0	..	..	..	21 ?.78	0.04	2.66	13 21 6.48	..	
	m Virginis	5	..	..	..	53.4	15.0	30.0	45.3	6.4	..	..	..	34 30.02	0.05	2.67	13 34 32.74	14.72	
	α Bootis	6	..	..	..	49.3	12.2	27.9	43.9	6.0	..	..	..	9 27.86	0.18	2.69	14 9 30.73	13.18	
	α Librae	7	..	..	..	45.2	7.4	23.0	38.5	0.4	..	..	..	43 22.90	0.01	2.71	14 43 25.62	15.83	
	β Librae	8	..	..	..	5.4	27.4	42.5	57.6	18.9	..	..	..	9 42.36	+ 0.04	2.73	15 9 45.13	+ 15.61	
19	λ Ursae Minoris, S. P.	9	..	..	..	..	..	56.0	58.0	54.0	..	..	..	58 56.00	— 61.92	3.31	7 57 57.39	— 219.85	
Y.	* — 26° 40′	10	..	..	..	2.0	3.2	4.5	5.7	6.8	17.6	19.0	21.2	3 10.00	5.67	3.31	8 3 7.64	+ 10.16	
	* — 26° 40′	11	45.7	48.1	49.5	0.2	1.4	2.7	4.1	5.2	15.7	17.2	19.4	14 2.65	0.09	3.32	8 14 5.88	10.23	
	Lacaille 3290	12	..	..	..	33.9	35.4	37.7	55.2	57.9	59.3	0.7	2.2	17 50.29	30.13	3.32	8 17 23.48	9.63	
	Angelina	13	..	..	..	37.5	38.6	39.7	40.7	42.1	52.2	53.4	55.5	21 44.96	— 5.28	3.32	8 21 43.00	..	
	* + 19° 51′	14	38.1	40.0	41.4	51.9	52.9	54.3	55.5	56.7	6.6	7.9	10.0	23 54.15	+ 0.02	3.32	8 23 57.49	15.07	
	* — 26° 38′	15	29.6	31.9	33.2	44.0	45.2	46.6	47.9	49.1	59.5	1.1	3.2	28 46.48	— 0.09	3.33	8 28 49.72	10.36	
	ϵ Hydrae	16	21.1	23.2	24.4	34.1	35.2	36.4	37.7	38.6	48.1	49.3	51.4	39 36.32	0.01	3.33	8 39 39.64	13.75	
	κ Cancri	17	9.4	11.6	12.8	22.6	23.6	24.8	26.0	27.1	36.9	38.1	40.0	0 24.81	0.00	3.34	9 0 28.15	14.15	
	Polaris, S. P.	18	..	..	..	..	..	..	..	..	..	..	46.0		24 56.78	3.48		83.42	
	89 Virginis	19	14.5	16.5	17.6	27.9	29.0	30.2	31.5	32.6	42.3	43.7	45.9	42 30.15	— 0.09	3.49	13 42 33.55	14.65	
	η Bootis	20	57.0	58.8	0.1	10.2	11.3	12.6	13.8	15.0	25.0	26.2	28.3	48 12.57	+ 0.04	3.49	13 48 16.10	13.62	
	τ Virginis	21	29.0	31.0	32.1	42.0	42.9	44.0	45.3	46.4	55.8	57.0	59.0	54 44.05	— 0.02	3.49	13 54 47.52	14.45	
	94 Virginis	22	51.3	53.5	54.6	4.3	5.3	6.5	7.7	8.7	18.3	19.6	21.6	59 6.49	0.05	3.50	13 59 9.94	14.94	
	κ Virginis	23	24.0	26.2	27.3	37.1	38.2	39.3	40.5	41.6	51.2	52.5	54.3	5 39.29	0.06	3.50	14 5 42.73	15.07	
	Moon II	24	33.8	36.0	37.3	47.4	48.5	49.7	50.9	52.0	2.0	3.1	5.3	9 49.64	0.07	3.50	14 9 53.07	..	
2	Librae	25	52.0	54.1	55.2	5.2	6.2	7.4	8.6	9.7	19.3	20.6	22.5	16 7.42	— 0.06	3.51	14 16 10.87	15.26	
	ϵ Bootis	26	45.1	47.4	48.7	59.7	0.9	2.2	3.5	4.7	15.4	16.7	19.0	39 2.12	+ 0.07	3.52	14 39 5.71	12.88	
	α Librae	27	6.4	8.6	9.9	19.8	21.0	22.2	23.4	24.4	34.4	35.6	37.5	43 22.11	— 0.08	3.52	14 43 25.55	+ 15.79	
	δ Ursae Minoris	28	..	..	..	38.5	1.5	34.0	45.5	25.0	45.0	6.0	38.0	22 36.69	— 7 12.26	3.71		— 71.71	
E.	α Lyrae	29	57.9	0.8	2.3	14.5	16.0	17.4	18.8	20.2	32.3	34.0	36.1	32 17.30	+ 0.06	3.71	14 32 21.07	+ 11.14	
20	Sun II	†30	41.2	43.6	44.7	54.8	56.1	57.2	58.7	59.8	9.6	11.2	13.4	12 57.30	— 0.07	3.80	20 13 1.03	— 69.49	
	α Cygni	†31	23.7	26.9	28.1	41.7	43.2	44.9	46.3	47.9	1.3	3.1	6.1	36 44.84	+ 0.08	3.82	20 36 48.74	+ 11.17	
	α Cephei	32	43.6	48.0	50.4	11.0	13.2	15.6	18.1	20.3	40.4	42.8	47.6	15 15.54	+ 0.17	3.85	21 15 19.56	8.71	
	β Cephei	33	.	9.8	13.1	42.0	44.5	48.3	51.3	54.7	22.3	25.9	32.0	26 52.39	— 4.14	3.86	21 26 52.11	6.24	
	Venus I	34	28.6	30.7	32.0	41.7	42.9	44.1	45.3	46.3	55.8	57.0	58.8	3 43.93	0.04	3.94	23 3 47.83	0.60	
Y.	ϵ Piscium	35	37.8	39.8	41.0	50.7	51.8	53.0	54.2	55.3	4.7	6.0	8.0	55 52.94	— 0.01	4.03	0 55 56.96	14.95	
	Polaris	36	..	..	..	13.0	57.0	46.0	35.5	16.0	..	..	..	9 45.50	+ 1.95	4.04		83.81	
	θ Ceti	37	57.8	59.9	1.1	11.0	12.0	13.2	14.4	15.5	24.9	26.3	28.3	17 13.13	— 0.04	4.05	1 17 17.14	14.45	
E.	Mars I	38	53.3	54.7	56.2	57.5	59.8	..	5.4	7.9	9.1	10.6	11.8	1 32.63	+ 0.27	4.18	4 1 37.08	..	
	Mars II	39	17.3	19.3	20.6	31.2	32.2	33.5	34.9	36.0	46.5	47.7	49.8	1 33.55	0.01	4.18	4 1 37.74	..	
	γ Tauri	40	48.8	51.1	52.4	2.3	3.4	4.6	5.9	6.9	16.5	18.1	20.0	12 4.55	0.00	4.19	4 12 8.74	15.25	
	Weisse (2) 350	41	51.8	54.1	55.4	6.4	7.8	9.2	10.5	11.7	22.4	23.8	26.1	17 9.02	+ 0.01	4.19	4 17 13.21	16.68	
	ϵ Tauri	42	26.1	28.4	29.6	39.5	40.6	41.9	43.3	44.4	54.3	55.6	58.0	20 41.97	0.00	4.19	4 20 46.16	15.59	
	Weisse (2) 505	43	21.7	23.8	25.2	35.2	36.2	37.5	38.7	39.6	49.4	50.8	52.9	23 37.36	0.00	4.19	4 23 41.55	15.22	
	α Tauri	44	..	..	..	..	..	..	39.4	41.9	43.1	44.4	45.9	28 42.94	— 34.56	4.19	4 28 12.57	15.29	
	Weisse (2) 720	45	19.7	22.1	23.3	33.8	34.9	36.1	37.4	38.5	48.7	50.0	52.1	33 36.05	0.00	4.20	4 33 40.25	15.93	
	μ Eridani	46	27.7	29.7	31.1	40.3	41.7	43.0	44.1	45.1	55.0	56.0	57.7	38 42.86	0.03	4.21	4 38 47.04	13.32	
	α Camelopardi	†47	..	..	..	..	..	..	..	52.3	58.6	0.9	4.1	7.3	41 0.64	— 1 21.82	4.21	4 40 43.03	25.32
	ι Aurigae	48	52.7	55.1	56.5	7.7	8.9	10.3	11.7	13.2	24.4	25.8	28.2	48 10.41	+ 0.02	4.22	4 48 14.65	17.20	
	Weisse (2) 1138	49	..	..	..	..	..	..	36.9	39.4	40.6	41.9	43.5	51 40.46	— 35.89	4.22	4 51 8.79	15.93	
	11 Orionis	50	33.5	35.6	36.9	47.0	48.1	49.2	50.5	51.6	1.1	2.5	4.5	56 49.14	0.00	+ 4.23	4 56 53.37	+ 15.14	

1, 2, 3, 4, 5, 6, 7, 8. Observations made with eye and ear at the wires A_1, B_1, C_3, D_3, E_5.
30. Very unsteady.
31. Tremulous.
47. Unsteady.

	s.
June 18, ... n. =	+ 0.26.
19, 7h. to 10h.	0.12.
13h. to 15h.	+ 0.19.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	ϵ.
	h. s.	s.	s.
Jan. 18, 14.1	+ 2.69	+ 0.034	— 0.026
19, 12.5	+ 3.45	+ 0.031	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 20 E.	ε Leporis	1	26.3	28.5	29.6	40.0	41.1	42.3	43.7	44.9	55.0	56.4	58.4	59 42.38	— 0.06	+ 4.23	4 59 46.55	+ 11.00
	α Aurigæ	2	19.6	22.6	24.4	38.4	39.8	41.5	43.2	44.8	58.4	59.9	2.9	6 41.41	0.01	4.23	5 6 45.63	19.32
	β Orionis	3	..	..	..	12.5	13.8	15.9	31.0	33.1	34.2	35.0	37.1	8 26.65	26.01	4.23	5 8 4.87	12.60
	α Leporis	4	28.6	30.6	31.9	42.0	43.1	44.3	45.6	46.6	56.6	57.8	59.9	26 44.27	0.04	4.25	5 26 48.48	11.40
	ε Orionis	5	17.3	18.4	19.7	20.8	21.9	..	49.4	51.7	52.8	54.1	55.4	29 36.15	16.66	4.25	5 29 23.74	13.29
	α Columbæ	6	25.0	27.7	29.0	40.9	42.1	43.4	45.0	46.2	57.4	59.0	1.4	34 43.37	0.05	4.26	5 34 47.58	8.97
	Uranus	7	47.5	49.4	50.8	1.5	2.6	3.8	5.1	6.2	26.5	27.7	30.2	43 3.75	0.02	4.26	5 43 7.99	..
	α Orionis	8	34.5	36.3	37.8	47.5	48.5	49.5	50.8	51.8	1.3	2.0	4.7	47 49.57	— 0.02	4.27	5 47 53.82	14.18
	* + 14° 49′	9	4.5	5.9	7.3	8.5	11.1	..	..	15.4	16.9	18.1	19.6	59 38.59	+ 3.67	4.28	5 59 46.54	14.97
	ν Orionis	10	34.1	36.2	37.5	47.1	48.6	49.9	51.1	52.1	1.8	3.1	4.8	59 49.66	— 0.02	4.28	5 59 53.92	+ 14.98
	δ Ursæ Minoris, S. P.	11	12.5	45.5	7.0	45.0	3.5	22.5	43.0	0.0	43.0	3.5	37.0	15 23.86	0.07	4.29		— 71.78
	51 Cephei	12	..	..	..	55.0	15.5	41.5	8.5	31.0	..	..	..	36 42.30	0.88	4.31	6 36 45.73	+ 118.98
	α Canis Majoris	13	..	..	..	21.9	23.3	25.2	40.7	42.9	44.4	45.7	47.1	39 36.40	26.85	4.31	6 39 13.86	11.13
	O. Arg. S. 5863	14	52.5	54.9	56.1	7.0	8.3	9.6	10.9	12.2	22.9	24.3	26.6	48 9.57	0.05	4.32	6 48 13.84	9.67
	Lacaille 2528	15	28.8	31.4	32.5	43.9	45.1	46.6	48.2	49.2	0.2	1.6	3.9	50 46.48	0.05	4.32	6 50 50.75	9.14
	* — 26° 10′	16	14.2	16.8	18.0	29.2	30.5	31.8	33.4	34.5	45.5	47.0	49.3	53 31.84	0.04	4.32	6 53 36.12	10.00
	Lacaille 2647	17	35.1	37.3	38.6	49.5	50.8	52.1	53.4	54.7	5.2	6.6	8.9	4 52.02	0.04	4.33	7 4 56.31	9.85
	Lacaille 2659	18	..	42.1	43.5	54.1	55.3	56.6	58.1	59.2	9.7	11.3	13.3	6 58.32	1.73	4.33	7 7 0.92	9.85
	O. Arg. S. 6600	19	2.5	5.0	6.5	17.1	18.2	19.5	20.8	22.0	32.5	33.9	36.1	13 19.45	0.04	4.34	7 13 23.75	10.00
	O. Arg. S. 6678	20	45.7	47.6	49.2	0.1	1.3	2.8	4.2	5.2	15.9	17.2	19.6	16 2.62	0.05	4.34	7 16 6.91	9.77
	O. Arg. S. 6748	21	..	..	..	..	..	..	4.2	6.9	8.5	10.0	11.4	19 8.20	37.98	4.34	7 18 34.56	9.61
	O. Arg. S. 6756	22	26.3	28.4	30.0	40.8	42.0	43.3	44.6	45.8	56.7	58.2	0.5	18 43.33	0.05	4.34	7 18 47.62	9.61
	O. Arg. S. 6810	23	..	..	..	..	..	..	6.6	9.2	10.6	12.1	13.6	21 10.42	— 37.13	4.34	7 20 37.63	9.98
	α^1 Geminorum	24	13.7	15.1	16.5	18.1	21.1	..	31.9	34.9	36.7	38.4	39.6	25 56.60	+ 0.26	4.35	7 26 1.21	16.74
	α^2 Geminorum	25	39.5	41.6	43.0	54.5	55.6	57.0	58.0	59.8	10.8	12.5	14.6	25 57.01	— 0.01	4.35	7 26 1.35	+ 16.68
	λ Ursæ Minoris, S. P.	26	..	..	..	..	52.0	46.0	0.5	51.0	51.5	..	..	57 50.20	+ 2.20	4.38		— 219.83
	o^1 Cancri	27	29.1	31.2	32.3	42.3	43.3	44.5	45.7	46.7	56.2	57.4	59.5	29 44.38	— 0.02	4.40	8 29 48.76	+ 14.12
24 Tr.	α Ophiuchi	28	11.3	13.4	14.7	24.5	25.8	26.9	28.1	29.1	38.9	40.1	42.1	28 26.81	0.02	13.09	17 28 39.88	14.14
	α Lyræ	29	48.8	51.4	53.0	5.3	6.7	8.1	9.7	10.9	23.0	24.7	27.0	32 8.05	0.00	13.14	17 32 21.19	11.04
25	Sun I	†30	11.8	14.0	15.8	26.2	27.1	28.1	29.7	30.6	40.4	41.8	44.1	31 28.15	0.04	13.26	20 31 41.37	..
	Sun II	31	30.4	32.6	33.9	44.1	45.2	46.2	47.6	48.8	59.0	0.5	2.3	33 46.42	0.04	13.26	20 33 59.64	..
	ε Pegasi	32	..	..	..	31.7	33.0	34.8	50.0	52.2	53.3	54.6	56.3	36 45.74	26.06	13.32	21 36 33.00	15.06
	Venus I	†33	9.8	12.0	13.2	22.7	23.9	25.2	26.2	27.3	36.8	38.2	40.0	24 25.03	0.02	13.42	23 24 38.43	0.83
Y.	Polaris	†34	..	..	..	..	..	39.0	28.0	10.0	..	..	..	10 25.67	47.60	13.57		87.74
Tr.	η Piscium	†35	47.5	49.6	50.7	0.5	1.7	2.9	4.2	5.3	15.2	16.4	18.3	24 2.94	0.02	13.58		15.22
	* + 20° 55′	36	23.3	25.4	26.8	37.1	38.2	39.3	40.7	41.8	51.8	53.2	55.2	59 39.34	— 0.01	13.68	3 59 53.01	15.82
	Mars I	37	3.1	4.8	6.1	7.4	10.0	.	15.3	18.0	19.3	20.7	22.4	5 42.71	+ 0.24	13.68	4 5 56.63	..
	Mars II	38	27.5	29.7	30.9	41.6	42.8	44.1	45.5	46.5	56.8	58.1	0.3	5 43.98	— 0.01	13.68	4 5 57.65	..
	B. A. C. 1355	39	2.5	4.0	5.1	6.6	9.1	..	16.1	18.7	20.0	21.4	22.8	15 42.63	+ 0.20	13.69	4 15 56.52	11.07
	O. Arg. S. 3022	40	28.3	30.5	32.1	42.7	43.8	45.1	46.6	47.6	58.1	59.8	1.8	15 45.13	— 0.05	13.69	4 15 58.77	11.07
	ε Tauri	41	16.4	18.6	19.9	30.0	31.1	32.3	33.7	34.8	44.7	46.0	48.0	20 32.32	0.01	13.69	4 20 46.00	15.65
	ν^1 Eridani	42	48.7	51.0	52.3	3.5	4.7	6.1	7.7	8.8	19.6	21.2	23.4	30 6.09	0.05	13.70	4 30 19.74	10.27
	Lacaille 1549	43	49.6	52.0	53.4	4.1	5.5	6.7	8.2	9.3	20.0	21.3	23.6	35 6.70	0.05	13.71	4 35 20.36	10.52
	O. Arg. S. 3360	44	49.8	52.1	53.4	4.4	5.8	7.0	8.4	9.7	20.5	22.0	24.1	40 7.02	0.05	13.72	4 40 20.69	10.39
	O. Arg. S. 3389	45	11.5	14.0	15.2	26.2	27.5	28.8	30.1	31.4	42.2	43.5	45.9	41 28.75	0.05	13.72	4 41 42.42	10.26
	* — 30° 55′	46	56.4	58.8	0.1	10.9	12.3	13.7	15.2	16.5	27.2	28.8	31.0	47 13.72	0.05	13.72	4 47 27.39	10.03
	O. Arg. S. 3488	47	36.1	38.5	39.8	50.7	51.9	53.1	54.6	55.8	6.2	7.6	9.8	48 53.10	0.05	13.72	4 49 6.77	10.57
	Uranus	48	57.0	59.2	0.5	11.1	12.1	13.5	14.7	15.8	26.1	27.5	29.7	42 13.88	0.01	13.77	5 42 27.14	..
	α Orionis	49	25.0	27.2	28.4	38.0	39.0	40.2	41.4	42.4	51.9	53.0	55.1	47 40.15	0.02	13.78	5 47 53.91	14.21
	* + 7° 26′	50	29.1	31.5	32.5	42.1	43.2	44.2	45.6	46.8	56.1	57.5	59.4	48 44.35	— 0.02	+13.78	5 48 58.11	+ 14.21

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 20, 4.0	+ 4.18	+ 0.049	— 0.026
25, 3.0	+ 13.62	+ 0.056	

30. Tremulous.
33. Tremulous.
34–35. Unsteady.

s.
January 20, 18h. to 2h. n. = + 0.12.
4h. to 5h. 0.08.
5h. to 9h. 0.03.
24–25, . . . + 0.04.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 25	* + 7° 26′ . . .	1	3.9	5.9	7.3	17.0	18.0	19.2	20.4	21.6	30.9	32.1	34.0	50 19.12	— 0.02	+13.78	5 50 32.88	+ 14.20
Tr.	α Canis Minoris . .	2	0.1	1.5	2.6	3.6	4.7	. .	32.4	34.5	33.9	37.0	38.6	32 19.12	16.72	13.88	7 32 16.27	13.50
	β Geminorum . . .	3	34.6	37.0	38.2	48.9	50.4	51.7	53.1	54.2	54.9	56.3	58.7	36 51.64	— 0.01	13.88	7 37 5.51	15.94
	Polaris, S. P. . .	4	31.0	50.0	40.0	5.0	43.0	35.0	22.0	5.0	. .	. .	. .	6 13.88	+ 3 22.90	14.19		68.19
	α Virginis	5	37.0	39.0	40.5	. .	. .	. .	53.5	54.7	. .	. .	. .	17 44.94	7.37	14.20	13 18 6.51	14.39
	ζ Virginis	6	50.4	5.4	20.7	. .	. .	35.6	. .	. .	50.7	5.4	20.6	27 35.54	0.03	14.46	13 27 50.03	14.07
	η Bootis	7	14.3	30.0	45.9	. .	. .	2.0	. .	. .	17.5	33.6	49.4	48 1.82	0.05	14.49	13 48 16.34	13.43
	Saturn	8	59.1	13.3	29.0	. .	. .	44.0	. .	. .	59.2	14.1	29.5	55 44.01	0.03	14.49	13 55 58.53	. .
	α Bootis	9	28.8	44.4	1.0	. .	. .	16.5	. .	. .	32.5	48.2	4.3	9 16.53	0.05	14.51	14 9 31.09	12.95
	α Libræ	10	34.0	40.0	55.9	. .	. .	11.2	. .	. .	26.5	42.3	48.4	43 11.19	0.02	14.54	14 43 25.75	15.60
	β Bootis	11	37.5	57.4	17.4	. .	. .	37.3	. .	. .	56.4	16.6	36.5	56 37.01	0.08	14.55	14 56 51.64	11.25
	β Libræ	12	45.4	0.6	15.5	. .	. .	31.0	. .	. .	46.1	1.3	16.5	9 30.92	+ 0.03	14.56	15 9 45.51	15.38
26	37 Eridani	13	. .	. .	. .	45.7	46.9	48.8	3.9	6.3	7.5	8.7	10.0	3 59.72	— 25.94	15.11	4 3 48.89	13.22
Y.	Mars I	14	0.9	2.5	3.7	5.1	7.7	. .	13.3	15.7	17.1	18.5	19.9	6 40.44	+ 0.24	15.12	4 6 55.80	. .
	Mars II	15	25.1	27.3	28.5	39.2	40.3	41.6	42.8	44.0	54.4	55.8	57.9	6 41.54	— 0.01	15.12	4 6 56.65	. .
	γ Tauri	16	37.7	40.0	41.0	51.1	52.2	53.5	54.7	55.8	5.5	6.9	8.9	11 53.39	0.02	15.12	4 12 8.49	15.32
	* — 28° 30′ . . .	17	9.2	11.5	12.7	23.7	24.9	26.2	27.6	28.8	39.6	40.9	43.0	17 26.19	0.05	15.13	4 17 41.27	10.75
	O. Arg. S. 3061 . .	18	54.9	57.2	58.6	9.6	10.7	12.0	13.3	14.4	25.3	26.5	28.8	19 11.94	0.05	15.13	4 19 27.02	10.73
	Lacaille 1463 . .	19	59.3	1.6	3.0	14.5	15.9	17.3	18.8	20.0	31.1	32.6	35.0	22 17.19	0.06	15.13	4 22 32.26	10.10
	* — 23° 46′ . . .	20	55.9	58.2	59.7	11.0	12.4	13.8	15.3	16.5	27.6	29.0	31.4	23 13.71	0.05	15.13	4 23 28.79	11.28
	Lacaille 1491 . .	21	. .	. .	. .	41.7	42.9	44.3	45.7	46.9	57.6	59.0	1.3	25 49.92	5.76	15.13	4 25 59.29	10.56
	Lacaille 1501 . .	22	. .	. .	. .	26.2	27.4	. .	30.0	31.2	42.2	43.4	45.9	26 35.18	6.56	15.13	4 26 43.75	10.56
	ν^7 Eridani	23	47.1	49.4	50.6	2.1	3.2	4.5	6.9	7.3	18.2	19.6	22.0	30 4.63	0.05	15.14	4 30 19.72	10.27
	B. A. C. 1439 . .	24	. .	. .	. .	36.6	38.0	40.2	57.5	0.4	1.8	3.3	4.7	31 52.85	30.01	15.14	4 31 37.98	10.24
	β Cœli	25	. .	. .	. .	18.1	19.8	22.3	40.9	44.0	45.4	47.0	48.8	37 35.79	32.41	15.14	4 37 18.52	9.16
	Lacaille 1590 . .	26	9.9	12.4	13.6	24.7	25.9	27.3	28.6	29.9	40.7	42.2	44.4	41 27.24	0.05	15.15	4 41 42.34	10.29
	Lacaille 1610 . .	27	. .	. .	. .	. .	. .	. .	36.9	39.6	41.0	42.4	44.2	44 40.82	40.35	15.15	4 44 15.62	9.53
	Lacaille 1642 . .	28	4.7	7.5	8.9	21.3	22.7	24.2	25.7	27.0	38.9	40.5	43.1	48 24.05	0.07	15.15	4 48 39.13	8.82
	Lacaille 1652 . .	29	. .	. .	. .	. .	. .	. .	49.9	53.1	54.6	56.3	57.9	49 54.36	42.41	15.15	4 49 27.10	8.80
	O. Arg. S. 3576 . .	30	9.9	12.3	13.5	24.8	26.0	27.4	28.7	29.9	40.8	42.2	44.5	54 27.27	— 0.05	15.16	4 54 42.38	10.13
	δ Ursæ Minoris, S. P.	31	. .	. .	. .	36.5	54.0	14.0	34.0	52.0	. .	. .	. .	15 14.10	+ 0.54	15.23		. .
	Euterpe	32	35.2	37.4	38.7	49.4	50.5	51.8	53.0	54.2	4.6	5.8	8.0	23 51.69	— 0.01	15.24	6 24 6.92	. .
	51 Cephei	33	. .	. .	. .	. .	4.5	28.5	54.5	15.0	. .	. .	. .	36 40.62	12.21	15.25	6 36 43.66	119.53
	Lacaille 2443 . .	34	31.3	34.7	35.0	46.2	47.4	48.7	50.2	51.4	2.2	3.5	5.6	40 48.75	0.05	15.25	6 41 3.95	9.53
	Lacaille 2464 . .	35	. .	. .	. .	8.4	9.9	12.0	28.9	31.6	33.0	34.3	35.8	44 24.24	29.28	15.25	6 44 10.21	9.67
	* — 28° 30′ . . .	36	. .	. .	. .	. .	. .	. .	1.0	3.7	5.1	6.4	7.9	46 4.82	37.82	15.26	6 45 42.26	9.67
	* — 28° 32′ . . .	37	17.2	19.7	21.1	. .	. .	. .	. .	. .	47.8	49.2	51.4	45 34.40	0.01	15.26	6 45 49.65	9.66
	* — 28° 32′ . . .	38	. .	. .	. .	32.2	33.3	34.6	36.0	37.3	. .	. .	. .	45 34.68	0.10	15.26	6 45 49.84	9.66
	* — 28° 29′ . . .	39	28.7	31.1	32.3	43.3	44.7	45.9	47.3	48.5	59.2	0.6	2.8	46 45.85	0.05	15.26	6 47 1.06	9.67
	ε Canis Majoris . .	40	49.1	51.4	52.8	3.8	4.9	6.4	7.7	8.9	19.6	21.2	23.3	53 6.28	0.05	15.26	6 53 21.49	9.61
	γ Canis Majoris . .	41	10.4	12.6	13.8	23.7	24.9	26.1	27.3	28.3	38.2	39.4	41.5	57 26.02	0.04	15.27	6 57 41.25	+ 11.48
	λ Ursæ Minoris, S. P.	42	. .	. .	. .	. .	38.5	40.0	46.0	42.0	. .	. .	. .	58 11.62	32.24	15.32		— 219.54
	O. Arg. S. 8225 . .	43	0.2	2.5	3.7	14.4	15.6	16.8	18.0	19.1	29.5	30.9	33.0	7 16.70	0.05	15.33	8 7 31.98	+ 10.52
	O. Arg. S. 8280 . .	44	. .	. .	. .	20.2	21.4	22.6	24.1	25.3	36.2	37.6	41.0	9 28.55	5.83	15.33	8 9 38.05	9.64
	Angelina . . .	45	22.3	24.3	. .	. .	. .	. .	39.6	40.7	50.6	52.1	54.0	14 40.51	2.31	15.33	8 14 53.53	. .
	* — 26° 52′ . . .	46	17.2	19.4	20.7	31.6	32.7	34.1	35.4	36.5	47.3	48.6	50.7	23 34.02	0.05	15.34	8 23 49.31	10.26
	35 Cancri	47	. .	. .	. .	18.2	19.3	20.5	21.8	22.9	33.0	34.3	36.4	27 25.80	5.32	15.35	8 27 35.83	15.00
	* + 20° 8′ . . .	48	17.3	19.5	50.7	1.0	2.2	3.4	4.8	5.9	15.8	17.1	19.4	29 3.37	0.01	15.35	8 29 18.71	14.98
	Weisse (2) 713 . .	49	. .	. .	. .	40.0	41.2	42.5	13.7	44.9	. .	. .	. .	29 42.46	0.06	15.35	8 29 57.75	14.98
	* + 20° 8′ . . .	50	32.7	35.1	36.4	46.6	47.6	48.9	50.2	51.3	1.3	2.7	4.8	30 48.87	— 0.01	+15.35	8 31 4.21	+ 14.98

5, 6, 7, 8, 9, 10, 11, 12. Observations made with eye and ear.
15. Gibbous.

s.
January 26, n. = + 0.04.

In the observations of stars in Præsepe the declinations are only approximate.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 25, 14.4	+ 14.52	+ 0.056	— 0.026
26, 7.2	+ 15.28	+ 0.053	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 26 Y.	B. A. C. 2907	1	..	..	..	23.2	24.7	26.7	42.5	45.2	46.5	47.7	49.2	31 38.21	— 27.39	+15.35	8 31 26.17	+ 14.98
	* + 20° 8′	2	..	..	..	21.5	22.6	23.8	25.1	26.2	..	..	..	32 23.84	0.06	15.35	8 32 39.13	14.98
	42 Cancri	3	..	..	..	42.5	43.6	45.0	46.3	47.4	57.4	58.6	0.9	32 50.21	5.29	15.35	8 33 0.27	14.98
	Weisse (2) 824	4	10.7	12.1	14.3	30.2	32.6	33.9	35.2	36.7	..	..	..	33 25.71	27.38	15.35	8 33 13.68	14.98
	Weisse (2) 841	5	..	..	..	49.4	50.6	52.9	8.4	11.2	12.4	13.7	15.1	34 4.21	27.38	15.35	8 33 52.18	14.98
	ε Hydræ	6	22.3	23.3	24.5	25.7	26.8	..	54.5	56.8	58.2	59.3	0.7	39 41.21	16.76	15.36	8 39 39.81	13.68
	κ Cancri	7	57.3	59.5	0.7	10.6	11.6	12.8	14.1	15.1	24.7	26.0	28.0	0 12.76	0.02	15.38	9 0 28.12	14.06
27 Tr.	α Ophiuchi	8	7.5	9.6	11.1	21.0	22.0	23.2	24.5	25.5	35.2	36.5	38.6	29 23.16	0.01	16.80		14.06
	Mercury II	†9	..	..	..	6.1	7.5	9.7	25.6	28.2	29.3	30.5	32.3	59 21.15	27.73	16.86	18 59 10.28	..
	α Aquilæ	10	39.2	41.2	42.4	52.2	53.2	54.4	55.6	56.8	6.1	7.5	9.6	43 54.38	0.02	16.98		15.04
28	Sun I	11	35.0	37.0	38.1	48.3	49.8	51.0	52.1	53.0	3.4	4.6	6.5	43 50.80	0.05	17.03	20 44 7.78	..
	Sun II	12	52.4	54.5	55.9	6.2	7.2	8.5	9.6	10.7	20.7	22.1	24.0	46 8.35	— 0.05	17.03	20 46 25.33	..
	α Cephei	13	30.5	34.7	37.3	57.8	0.2	2.4	5.2	7.5	27.2	29.8	34.3	15 2.45	+ 0.06	17.06	21 15 19.57	8.78
	β Cephei	14	51.0	56.6	0.1	28.6	31.5	34.5	38.0	41.5	8.9	13.0	18.4	26 34.74	+ 0.09	17.07	21 26 51.90	6.39
	Venus I	15	23.6	25.5	26.8	36.2	37.4	38.5	39.9	40.8	50.2	51.7	53.7	36 38.57	— 0.03	17.20	23 36 55.74	+ 0.63
Y. 29 E.	δ Ursæ Minoris	16	..	..	..	31.0	49.0	9.0	29.0	47.0	..	..	..	15 9.00	+ 0.80	19.89		— 73.22
	α Lyræ	17	42.2	44.7	46.1	58.5	0.0	1.3	2.9	4.2	16.2	18.0	20.5	32 1.33	+ 0.06	19.91		+ 10.93
	Mercury	†18	..	..	..	7.4	8.5	10.8	26.4	29.5	31.0	32.1	33.5	7 22.40	— 27.78	19.95	19 7 14.57	..
30	Sun I	†19	..	..	..	13.7	14.9	17.0	32.7	35.0	36.3	37.9	39.2	52 28.34	27.04	20.06	20 52 21.36	..
	Sun II	†20	2.5	4.4	5.6	15.8	16.8	18.2	19.5	20.5	30.6	31.8	33.4	54 18.10	0.07	20.06	20 54 38.09	..
	β Cephei	21	25.3	28.3	31.6	35.5	37.8	..	58.5	5.9	8.8	12.4	16.5	27 20.06	48.27	20.10	21 26 51.89	6.41
	Venus I	22	26.9	28.8	30.2	39.8	40.9	42.0	43.2	44.3	53.9	54.9	56.7	44 41.96	0.03	20.25	23 45 2.18	0.64
	Moon I	23	28.8	31.0	32.3	42.1	43.2	44.4	45.6	46.7	56.4	57.6	59.6	49 44.34	0.02	20.25	23 50 4.57	..
	α Andromedæ	24	47.7	50.2	51.5	2.4	3.6	4.9	6.3	7.5	18.2	19.7	21.8	1 4.89	0.00	20.26	0 1 25.15	15.13
	γ Pegasi	25	41.6	43.8	45.1	55.0	56.1	57.2	58.5	59.4	9.3	10.6	12.7	5 57.21	— 0.01	20.27	0 6 17.47	15.14
	Polaris	26	32.0	26.5	19.0	10.0	48.5	..	53.5	36.0	24.5	13.5	56.0	57 55.95	+11 27.97	20.32		92.38
	Mars I	27	14.3	15.7	17.2	18.6	21.2	..	26.7	29.4	30.6	31.9	33.3	10 53.89	+ 0.25	20.53	4 11 14.67	..
	Mars II	28	38.4	40.5	41.9	52.5	53.6	54.8	56.2	57.4	7.5	8.9	11.2	10 54.81	0.00	20.53	4 11 15.34	..
	ε Tauri	29	9.5	11.7	13.0	23.2	24.2	25.5	26.8	27.9	37.8	39.1	41.4	20 25.46	— 0.01	20.54	4 20 45.99	15.71
	Weisse (2) 505	30	..	..	..	18.8	19.7	20.9	22.1	23.2	32.8	34.2	36.4	23 26.01	5.18	20.54	4 23 41.37	15.34
	85 Tauri	31	..	..	..	48.1	49.3	50.6	51.9	52.9	2.7	4.0	6.0	23 55.60	5.18	20.54	4 24 10.96	15.33
	α Tauri	32	36.3	38.4	39.5	49.4	50.6	52.0	53.2	54.2	3.9	5.3	7.4	27 51.84	0.01	20.55	4 28 12.38	15.41
	Lacaille 1537	33	3.4	6.2	7.4	19.6	21.1	22.4	23.9	25.3	37.6	38.9	41.6	31 22.49	0.08	20.55	4 31 42.96	9.19
	Lacaille 1557	34	50.3	52.6	54.5	7.0	8.5	10.0	11.5	12.7	25.3	26.7	29.1	36 9.83	0.06	20.56	4 36 30.33	10.40
	μ Eridani	35	11.5	13.3	14.6	24.0	25.2	..	27.6	28.5	38.0	39.3	40.2	38 26.22	0.02	20.56	4 38 46.76	13.43
	Lacaille 1595	36	57.4	0.0	1.4	13.5	14.8	16.1	17.5	19.1	30.3	32.0	34.5	41 16.06	0.08	20.56	4 41 36.54	9.39
	Lacaille 1611	37	..	..	..	..	..	..	31.4	34.3	35.8	37.2	38.7	44 35.48	40.75	20.57	4 44 15.30	9.47
	Lacaille 1666	38	14.9	17.4	18.8	30.7	31.8	33.4	35.0	36.1	47.8	49.3	51.6	52 33.35	0.07	20.58	4 52 53.86	9.39
	11 Orionis	39	17.1	19.3	20.6	30.4	31.5	32.7	34.0	35.2	44.9	46.2	48.4	56 32.75	0.01	20.58	4 56 53.32	15.24
	Lacaille 1844	40	..	..	..	..	..	..	14.9	17.8	19.1	20.8	22.3	21 18.98	— 39.35	20.60	5 21 0.23	9.53
	δ Orionis	41	32.8	35.0	36.2	..	..	..	..	..	59.7	0.9	2.9	24 47.92	+ 0.01	20.61	5 25 8.54	13.48
	Weisse 603	42	..	..	..	45.9	46.8	48.0	49.2	50.0	..	..	..	24 47.98	— 0.08	20.61	5 25 8.51	13.49
	ε Orionis	43	48.0	49.9	51.2	1.0	2.1	3.3	4.5	5.4	14.8	16.1	18.1	29 3.13	0.03	20.61	5 29 23.71	13.37
	O. Arg. 8. 4142	44	44.2	46.1	47.8	59.2	0.4	1.7	3.2	4.3	15.2	16.6	18.9	32 1.60	— 0.07	20.62	5 32 22.15	9.62
	Lacaille 1916	45	23.3	24.7	26.3	27.9	30.6	..	40.6	43.6	45.1	46.3	47.8	32 5.62	+ 0.19	20.62	5 32 26.43	9.62
	Lacaille 1964	46	..	..	..	3.5	4.9	6.2	7.7	9.1	..	..	..	37 6.28	— 0.12	20.62	5 37 26.78	8.98
	Uranus I	47	50.0	51.5	52.8	54.3	56.8	..	2.2	4.8	6.1	7.4	9.0	41 29.49	+ 0.25	20.63	5 41 50.37	..
	Uranus II	48	13.7	15.8	17.1	27.8	28.9	30.2	31.5	32.5	42.9	44.2	46.5	41 30.10	0.00	20.63	5 41 50.73	..
	Lacaille 2015	49	34.2	36.5	38.0	49.6	50.8	52.2	53.7	54.8	6.1	7.5	10.0	44 52.13	— 0.07	20.63	5 45 12.69	9.24
	Lacaille 2044	50	36.1	38.5	40.0	51.6	53.0	54.3	55.9	57.0	8.2	10.0	12.3	47 54.26	— 0.07	+20.63	5 48 14.82	+ 9.06

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 27, 18.6	+ 16.89	+ 0.063	— 0.026
30, 4.5	+ 20.55	+ 0.064	

9. Very faint.
18. Very faint.
19–20. Unsteady.

	s.
January 27–28, ... n. =	+0.06.
29–30, 18h. to 0h.	0.12.
30, 0h. to 10h.	+0.06.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 30	Lacaille 2065	1	18.5	21.1	22.5	33.6	34.8	36.2	37.7	38.9	49.9	51.6	53.7	50 36.23	— 0.07	+20.64	5 50 56.80	+ 9.42
E.	Lacaille 2124	2	57.9	59.2	0.5	2.0	3.1	..	35.7	38.5	39.9	41.4	42.9	59 20.11	19.69	20.64	5 59 21.06	9.27
	Lacaille 2163	3	47.4	49.7	51.0	2.3	3.5	5.0	6.5	7.8	18.4	20.1	22.4	4 4.92	0.07	20.65	6 4 25.50	+ 9.43
	δ Ursæ Minoris, S. P.	4	59.0	29.5	51.0	31.5	18.0	8.0	28.0	46.5	28.0	48.0	22.5	15 9.01	0.58	20.66		— 73.34
	51 Cephei	5	..	..	..	37.0	59.0	22.0	47.0	9.0	..	..	..	36 22.80	0.25	20.68	6 36 43.23	+ 120.32
	α Canis Majoris	6	37.5	39.8	41.3	50.9	52.0	53.2	54.5	55.7	5.3	6.6	8.6	38 53.22	0.02	20.68	6 39 13.88	11.17
	* — 28° 51′	7	27.8	30.1	31.3	42.5	43.8	45.0	46.4	47.4	58.3	59.7	2.1	48 44.95	0.06	20.70	6 49 5.59	9.64
	Lacaille 2524	8	21.8	23.7	25.2	36.0	37.3	38.6	39.8	41.0	51.8	53.4	55.4	49 38.55	0.06	20.70	6 49 59.19	9.62
	* — 29° 30′	9	19.5	22.0	23.0	34.5	35.5	37.8	38.3	39.5	19.3	50.7	53.4	54 37.59	0.06	20.71	6 54 58.24	9.54
	Lacaille 2571	10	..	..	..	1.5	2.6	4.0	5.3	6.4	..	..	..	55 3.96	— 0.11	20.71	6 55 24.56	9.73
	* — 26° 5′	11	59.4	1.0	2.3	3.8	6.0	..	..	..	..	..	..	1 2.50	+ 37.40	20.71	7 2 0.61	10.05
	Lacaille 2623	12	31.5	33.7	35.0	45.7	46.8	48.2	49.4	50.6	1.2	2.5	5.0	1 48.15	— 0.06	20.71	7 2 8.80	10.04
	δ Canis Majoris	13	19.0	21.1	22.4	33.3	34.5	35.6	37.0	38.1	48.7	50.1	52.4	2 35.65	0.06	20.71	7 2 56.30	10.03
	Lacaille 2655	14	3.9	6.2	7.5	18.5	19.7	21.0	22.3	23.5	34.2	35.4	37.6	6 20.89	0.06	20.72	7 6 41.55	9.90
	O. Arg. S. 6518	15	16.5	18.8	20.1	31.3	32.5	33.9	35.2	36.5	47.3	48.9	51.0	10.33.82	0.07	20.72	7 10 54.47	9.44
	* — 30° 57′	16	56.7	58.9	0.4	11.8	13.0	14.4	15.8	16.9	28.0	29.3	31.6	13 14.26	0.07	20.72	7 13 34.91	9.32
	* — 30° 57′	17	50.7	53.2	54.4	5.5	6.8	8.2	9.6	10.7	21.9	23.4	25.8	17 8.20	0.06	20.73	7 17 28.87	9.32
	* — 31° 1′	18	46.5	48.7	50.0	1.5	2.6	4.0	5.5	6.5	17.5	19.0	21.6	18 3.95	0.07	20.73	7 18 24.61	9.31
	Lacaille 2813	19	56.5	58.6	0.1	..	..	..	..	..	26.4	27.8	30.2	22 13.27	— 0.02	20.73	7 22 33.98	10.00
	α^1 Geminorum	20	22.7	25.2	26.2	37.8	39.1	40.6	42.0	43.1	54.4	55.7	57.9	25 40.43	+ 0.01	20.74	7 26 1.18	16.73
	α Canis Minoris	21	40.4	42.4	43.6	53.4	54.4	55.6	56.8	57.8	7.4	8.7	10.6	31 55.55	— 0.02	20.74	7 32 16.27	13.49
	B. A. C. 2526	22	23.2	25.1	26.3	36.0	37.1	38.3	39.5	40.5	50.0	51.2	53.1	32 38.21	— 0.02	20.74	7 32 58.93	+ 13.73
	λ Ursæ Minoris, S. P.	23	..	..	..	39.0	10.0	34.0	35.0	36.0	..	..	..	57 36.80	+ 0.63	20.77		— 219.35
	* + 20° 17′	24	36.3	38.9	40.2	50.2	51.6	52.6	53.8	54.8	5.0	6.3	8.5	11 52.56	— 0.01	20.79	8 12 13.34	+ 15.07
	ϵ Hydræ	25	3.8	5.9	7.1	16.6	17.8	19.2	20.5	21.5	30.7	32.0	34.0	39 19.01	0.02	20.81	8 39 39.80	13.65
	Massalia	26	41.6	43.7	44.7	54.7	55.8	57.0	58.2	59.2	9.1	10.2	12.1	40 56.94	— 0.01	20.88	9 41 17.81	..
	μ Leonis	27	29.4	31.7	33.0	43.6	45.1	46.3	47.9	48.9	59.2	0.6	3.0	44 46.25	0.00	20.89	9 45 7.14	14.87
Tr.	α Lyræ	28	41.0	43.5	45.0	57.2	58.7	0.2	1.7	3.1	15.3	16.9	19.3	32 0.17	+ 0.01	21.12		+ 10.91
31	Sun II	29	..	..	..	..	..	..	53.6	55.9	57.1	58.4	59.8	58 56.96	— 34.89	21.24	20 58 43.31	— 68.25
Feb. 1	Venus	30	25.8	27.9	29.0	38.8	39.8	41.0	42.1	43.2	52.7	53.9	56.0	52 40.84	0.03	23.63	23 53 4.44	+ 0.65
Y.	α Andromedæ	31	44.3	46.7	48.1	59.0	0.2	1.5	2.9	4.1	14.8	16.3	18.5	1 1.49	0.00	23.64	0 1 25.13	15.15
	ϵ Piscium	32	17.9	20.0	21.1	30.9	32.0	33.2	34.4	35.4	44.9	46.2	48.1	55 33.10	— 0.02	23.69	0 55 56.77	15.09
	Polaris	†33	28.0	22.0	16.0	6.5	45.0	..	48.0	31.5	19.5	10.0	50.0	57 51.65	+11 26.93	23.69		93.37
	η Piscium	34	37.2	39.4	40.6	50.5	51.6	52.9	54.1	55.2	4.9	6.2	8.2	23 52 80	— 0.01	23.71	1 24 16.51	15.32
	o Piscium	35	16.2	17.5	18.8	20.1	22.5	..	23.2	25.6	26.7	28.0	29.3	37 52.79	+ 0.21	23.74	1 38 16.74	15.12
	Moon I	36	6.0	8.0	9.2	19.4	20.4	..	22.9	23.9	33.9	35.1	37.1	44 21.59	0.00	23.74	1 44 45.33	
Tr.	γ^1 Eridani	37	5.9	7.8	9.2	19.1	20.1	21.3	22.5	23.6	33.5	34.7	36.7	51 21.31	— 0.04	23.80	3 51 45.07	12.77
	O. Arg. S. 2761	38	29.3	31.3	32.9	43.8	45.0	46.1	47.7	48.8	59.5	0.7	3.1	56 46.18	0.06	23.80	3 57 9.92	11.22
	* — 7° 49′	39	17.7	19.7	21.2	30.7	31.7	32.8	34.2	35.0	44.7	45.9	48.0	1 32.87	0.03	23.81	4 1 56.65	13.24
	Lalande 7819	40	40.0	42.0	43.2	53.0	54.1	55.2	56.4	57.5	7.1	8.3	10.2	3 55.18	0.04	23.81	4 4 18.95	13.10
	Weisse 81	41	48.3	50.4	51.6	1.3	2.3	3.5	4.8	5.8	15.3	16.6	18.6	5 3.50	— 0.04	23.81	4 5 27.27	13.09
	Mars I	42	33.0	34.3	35.9	37.4	39.9	..	45.5	18.2	49.4	50.8	52.2	13 12.66	+ 0.25	23.82	4 13 36.73	
	Mars II	43	57.1	59.5	0.8	11.1	12.4	13.8	15.2	16.2	26.4	27.8	30.1	13 13.67	0.00	23.82	4 13 37.49	..
	Weisse (2) 436	44	..	..	..	35.3	36.4	38.0	39.2	40.2	50.8	52.3	54.5	20 43.34	— 5.60	23.83	4 21 1.57	16.60
	α Tauri	45	33.0	35.0	36.2	46.1	47.4	48.7	49.9	50.8	0.7	2.1	4.2	27 48.55	— 0.01	23.84	4 28 2.38	15.44
	* — 25° 55′	46	25.5	27.7	29.1	39.7	40.9	42.1	13.7	14.8	55.3	56.6	..	34 40.54	+ 1.60	23.85	4 35 5.98	10.97
	B. A. C. 1471	47	10.3	12.3	13.8	24.8	..	..	28.4	29.7	40.3	..	43.8	38 25.42	+ 1.62	23.85	4 38 50.89	10.68
	O. Arg. S. 3389	48	..	..	..	15.9	17.1	18.5	19.9	21.0	31.9	33.2	35.6	41 24.14	— 5.80	23.86	4 41 42.20	10.39
	Lacaille 1615	49	55.1	57.4	58.7	9.3	10.6	11.9	13.2	14.3	24.7	..	28.3	45 10.35	+ 1.38	+23.86	4 45 35.59	+ 10.91

33. Steady.

January 30–31 and February 1, n = + 0.06 s.

CORRECTIONS, &c.			
Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 30, 18.5	+ 21.12	+ 0.050	— 0.026
Feb. 1, 1.0	+ 23.68	+ 0.060	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 1	O. Arg. S. 3492	1	38.7	41.0	42.2	. .	. .	. .	. .	. .	8.4	9.8	12.0	48 55.35	— 0.02	+23.87	4 49 19.20	+ 10.84
Tr.	* — 25° 48′	2	13.9	16.2	17.6	28.0	29.2	30.5	32.1	33.1	43.5	45.0	47.2	50 30.57	0.06	23.87	4 50 54.38	10.82
	Lacaille 1675	3	33.6	36.1	37.5	49.0	50.2	51.6	53.1	54.2	5.2	6.8	9.4	53 51.52	— 0.06	23.87	4 54 15.33	9.83
	* — 8° 21′	4	3.7	5.1	6.5	7.7	10.2	. .	10.9	13.1	14.4	15.6	17.0	7 40.42	+ 0.20	23.89	5 8 4.51	12.74
	β Orionis	5	25.9	27.8	29.0	38.7	39.7	41.0	42.2	43.2	52.8	54.0	56.0	7 40.94	— 0.03	23.89	5 8 4.80	12.73
	B. A. C. 1713	6	20.3	22.5	23.8	34.6	35.8	37.0	38.3	39.6	50.2	. .	53.7	21 35.58	+ 1.40	23.91	5 22 0.89	10.40
	* — 26° 40′	7	28.1	30.4	31.7	42.3	43.5	44.9	46.2	47.3	57.9	. .	1.4	22 43.37	+ 1.40	23.91	5 23 8.68	10.40
	α Leporis	8	8.7	10.8	12.1	22.2	23.2	24.5	25.8	26.8	36.7	38.1	40.2	26 24.46	— 0.05	23.91	5 26 48.32	11.53
	* — 17° 57′	9	4.2	6.3	7.5	17.5	18.7	20.0	21.2	22.3	32.3	. .	35.5	27 18.55	+ 1.32	23.91	5 27 43.78	11.51
	α Columbæ	10	5.2	7.8	9.2	21.9	22.1	23.6	24.9	26.1	37.6	39.2	41.5	34 23.55	— 0.07	23.93	5 34 47.41	9.13
	Uranus I	11	33.4	34.0	36.2	. .	40.0	. .	45.6	48.1	49.4	50.8	52.2	41 16.70	3.67	23.93	5 41 36.96	14.26
	Uranus II	12	57.0	59.1	0.3	11.0	12.1	13.4	14.6	15.7	26.2	27.5	29.6	41 13.32	0.00	23.93	5 41 37.25	. .
	α Orionis	13	14.8	16.7	17.9	27.6	28.8	29.9	31.1	32.2	41.5	42.9	45.0	47 29.85	0.02	23.94	5 47 53.77	14.26
	Lacaille 2096	14	5.4	7.7	9.1	19.6	20.9	22.1	23.3	24.5	35.0	36.4	38.7	55 22.06	0.06	23.95	5 55 45.95	10.35
	O. Arg. S. 4613	15	45.5	47.9	49.2	0.1	1.3	2.6	4.0	5.1	15.9	17.2	19.6	59 2.58	— 0.06	23.95	5 59 26.47	9.94
	Lacaille 2159	16	14.3	46.5	47.8	58.7	59.9	1.1	. .	3.7	14.1	15.5	17.8	4 0.94	+ 0.08	23.96	6 4 24.98	10.12
	* — 26° 40′	17	43.6	45.9	47.2	57.9	59.2	0.4	2.0	3.1	13.7	15.0	17.2	6 0.47	— 0.06	23.96	6 6 24.37	+ 10.12
	δ Ursæ Minoris, S. P.	18	54.5	28.0	49.0	29.0	48.0	7.0	26.0	43.5	26.0	47.5	20.5	15 7.18	0.58	23.97		— 73.82
	γ Geminorum	19	17.3	19.5	20.8	30.7	32.0	33.0	34.2	35.3	45.0	46.5	48.7	29 33.00	0.01	23.99	6 29 56.98	+ 15.13
	* + 16° 31′	20	. .	. .	. .	10.0	11.2	12.5	13.7	14.8	24.4	25.9	27.8	30 17.54	— 5.21	23.99	6 30 36.32	15.12
	α Canis Majoris	21	34.3	36.4	37.7	47.8	48.9	50.1	51.3	. .	2.0	. .	5.4	38 48.32	+ 1.72	24.00	6 39 14.04	11.19
	* + 20° 21′	22	25.3	27.6	28.8	39.4	40.5	. .	. .	. .	53.9	55.0	57.3	8 40.97	0.46	24.11	8 9 5.54	15.09
	Angelina	23	12.9	14.5	15.8	. .	19.6	. .	. .	26.1	27.3	28.7	. .	8 46.41	5.40	24.11	8 9 15.92	. .
	Lacaille 3293	24	16.6	19.0	20.4	31.0	32.3	33.7	35.1	. .	46.8	48.2	50.5	17 33.36	+ 0.19	24.13	8 17 57.68	10.11
	* — 27° 22′	25	17.7	20.1	21.2	32.2	33.3	34.8	36.2	37.3	48.0	49.4	51.7	18 34.72	— 0.06	24.13	8 18 58.79	10.11
	* — 29° 55′	26	. .	43.5	45.1	56.1	. .	58.7	. .	1.2	12.0	13.4	. .	22 58.57	— 0.06	24.13	8 23 22.64	9.79
	* — 19° 48′	27	11.3	13.3	14.7	25.0	26.0	27.2	. .	29.8	39.7	41.0	43.1	25 27.11	+ 0.08	24.13	8 25 51.32	11.09
	* — 19° 46′	28	2.9	5.1	6.4	16.4	. .	18.9	. .	21.3	31.2	32.5	34.8	26 18.83	— 0.04	24.13	8 26 42.92	11.09
	* + 5° 54′	29	33.5	35.6	36.8	46.6	47.6	48.7	50.0	51.0	0.6	1.6	3.7	33 48.70	0.02	24.14	8 34 12.82	13.63
	ε Hydræ	30	0.5	2.6	3.8	13.4	14.4	15.6	16.9	18.0	27.4	28.7	30.8	39 15.65	0.02	24.15	8 39 39.78	+ 13.63
Y.	δ Ursæ Minoris	31	. .	. .	. .	. .	. .	. .	29.5	8.0	27.5	48.0	12.0	24 25.00	9 19.57	24.85		— 73.93
	α Lyræ	32	37.1	. .	41.2	53.6	55.0	56.5	58.1	59.5	11.4	13.2	15.7	31 58.13	— 1.66	24.86	18 32 21.33	+ 10.86
	β Lyræ	33	22.2	24.7	26.2	37.6	38.8	40.3	41.8	43.0	54.5	55.9	58.1	44 40.26	+ 0.01	24.88	18 45 5.15	+ 11.66
	Mercury II	34	12.6	14.7	15.9	26.5	27.7	28.8	30.1	31.2	41.5	42.7	45.1	20 28.80	— 0.05	24.92	19 20 53.67	— 0.23
2	Sun I	35	. .	. .	. .	22.3	23.7	25.7	41.3	43.7	44.9	46.2	47.7	4 36.93	26.95	25.03	21 4 35.01	. .
	Sun II	36	10.4	12.7	13.8	23.9	25.1	26.3	27.5	28.6	38.5	39.7	41.7	6 26.20	— 0.05	25.03	21 6 51.18	. .
	Venus I	37	2.4	3.7	5.0	6.3	8.8	. .	9.0	11.3	12.5	13.8	15.1	56 38.79	+ 0.20	25.23	23 57 4.22	+ 0.65
	α Andromedæ	38	42.6	45.0	46.5	57.5	58.6	59.9	1.2	2.5	23.2	24.7	26.8	0 59.86	— 0.01	25.23	0 1 25.08	15.17
	Polaris	†39	30.0	22.0	12.5	4.0	40.0	. .	. .	. .	. .	. .	. .	46 21.70	+22 55.10	25.29		94.70
	Moon I	†40	36.1	38.3	39.4	49.7	50.9	52.1	53.4	54.5	4.5	5.8	7.8	41 52.05	— 0.02	25.42	2 42 17.45	. .
	O. Arg. S. 1910	41	13.4	15.7	16.9	27.4	28.6	29.9	31.2	32.3	42.6	44.0	46.2	49 29.84	0.02	25.42	2 49 55.24	12.68
	α Ceti	42	34.1	36.1	37.4	47.1	48.1	49.3	50.5	51.5	0.9	2.2	4.3	54 49.23	0.02	25.43	2 55 14.64	14.59
	Weisse 1001	43	54.9	57.1	58.2	8.0	9.1	10.3	11.5	12.7	22.2	23.6	25.6	57 10.29	0.02	25.43	2 57 35.70	15.20
	δ Arietis	44	14.8	17.1	18.3	28.5	29.4	30.8	32.0	33.0	43.1	44.4	46.5	3 30.72	0.02	25.44	3 3 56.14	15.84
	ζ Arietis	45	28.5	30.8	31.9	42.2	43.4	44.7	45.9	47.0	57.2	58.5	0.6	6 44.61	0.02	25.44	3 7 10.03	15.86
	Weisse 168	46	45.4	47.5	48.6	58.6	59.6	0.8	2.0	3.1	12.8	14.1	16.2	10 0.79	0.02	25.45	3 10 26.22	15.22
	Weisse 228	47	. .	. .	. .	53.0	54.0	55.3	56.5	57.5	6.8	8.2	10.2	13 0.19	5.02	25.45	3 13 20.62	13.98
	Weisse 240	48	23.2	25.3	26.5	36.2	37.2	38.5	39.6	40.6	50.2	51.4	53.4	13 38.37	0.03	25.45	3 14 3.79	13.97
	Lacaille 1108	49	. .	. .	. .	52.3	53.6	55.1	56.6	57.9	9.5	11.1	13.4	22 1.17	6.22	25.46	3 22 20.41	10.88
	Lacaille 1111	50	. .	. .	. .	31.5	32.8	34.2	35.6	37.1	48.8	50.5	52.9	22 40.42	— 6.23	+25.46	3 22 59.65	+ 10.82

CORRECTIONS, &c.

Date.		Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
Feb. 1,	5.8	+ 23.94	+ 0.074	— 0.026

39. Unsteady.
40. Fine observation.

February 1-2, 18h. to 22h. $n = +0.06$.

DATE.	OBJECT.	Number	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 2	Rumker 952	1	42.0	44.7	45.9	56.5	57.7	58.9	0.2	1.4	. .	. .	. .	35 53.49	+ 5.40	+25.48	3 36 24.37	+ 16.20
Y.	17 Tauri	2	11.4	13.6	14.9	25.4	26.5	27.9	29.2	30.4	40.5	42.0	44.2	36 27.82	— 0.02	25.48	3 36 53.28	16.20
	1 Pleiadum	3	. .	. .	. .	59.2	0.4	1.6	2.9	4.0	. .	. .	. .	37 1.62	— 0.07	25.48	3 37 27.03	16.19
	7 Pleiadum	4	10.0	12.8	14.1	24.6	25.7	27.0	28.5	29.5	. .	. .	. .	37 21.60	+ 5.39	25.48	3 37 52.47	16.19
	23 Pleiadum	5	38.7	41.0	42.2	52.8	53.9	55.1	56.5	57.7	7.8	9.3	11.5	37 55.14	— 0.02	25.48	3 38 20.60	16.19
	13 Pleiadum	6	23.0	25.3	26.5	37.1	38.2	. .	40.3	42.0	52.2	53.6	55.7	38 39.39	0.01	25.48	3 39 4.86	16.18
	* + 23° 35′	7	. .	. .	. .	9.5	11.8	13.0	29.3	31.8	33.1	34.4	36.0	39 24.86	— 28.06	25.48	3 39 22.28	16.18
	* + 23° 35′	8	52.2	53.6	55.0	56.5	59.0	. .	4.4	7.0	8.3	9.7	11.2	40 31.69	+ 0.23	25.48	3 40 57.40	16.18
	* + 23° 35′	9	7.7	9.1	10.5	11.8	14.5	. .	20.0	22.4	23.8	25.1	26.6	40 47.15	+ 0.23	25.48	3 41 12.86	16.18
	B. A. C. 1188	10	46.0	47.4	49.4	5.6	8.3	9.6	10.9	12.4	. .	. .	. .	42 1.20	— 28.05	25.48	3 41 58.63	16.18
	O. Arg. S. 2637	11	2.3	4.6	5.8	16.2	17.3	18.5	19.7	20.9	30.9	32.3	34.4	48 18.45	0.04	25.49	3 48 43.90	12.10
	O. Arg. S. 2696	12	37.9	10.2	11.5	52.5	53.7	55.0	56.5	57.6	8.3	9.6	11.9	51 54.97	0.05	25.49	3 52 20.41	11.27
	* — 21° 25′	13	34.3	36.6	37.9	. .	. .	. .	. .	. .	3.2	4.6	6.5	54 50.52	0.00	25.50	3 55 16.02	11.99
	O. Arg. S. 2741	14	20.6	22.7	24.0	34.4	35.6	36.9	38.1	39.2	49.3	50.7	52.9	55 36.76	0.04	25.50	3 56 2.22	11.98
	Lacaille 1346	15	34.0	37.4	38.7	50.1	51.3	52.6	53.9	55.1	6.3	7.8	10.1	59 52.54	0.05	25.50	4 0 17.99	10.76
	O. Arg. S. 2828	16	. .	. .	. .	. .	. .	. .	58.5	1.1	2.5	4.0	5.4	2 2.30	37.54	25.50	4 1 50.26	11.19
	* — 28° 9′	17	. .	. .	. .	41.6	43.3	45.5	2.5	5.2	6.4	7.8	9.3	3 57.72	— 29.19	25.51	4 3 54.04	11.11
	Weisse (2) 118	18	15.7	17.3	18.9	20.4	23.2	. .	33.4	36.3	37.7	39.2	40.6	6 58.27	+ 0.21	25.51	4 7 23.99	17.09
	Weisse (2) 120	19	43.7	46.4	47.6	59.0	0.2	1.7	3.0	4.2	15.1	16.7	18.9	7 1.50	— 0.01	25.51	4 7 27.00	17.09
ω	Tauri	20	. .	. .	. .	. .	. .	. .	29.1	31.7	33.0	34.3	35.8	9 32.78	35.39	25.51	4 9 22.90	15.86
	Weisse (2) 166	21	. .	. .	. .	. .	. .	. .	40.5	43.1	44.2	45.7	47.0	9 44.10	35.38	25.51	4 9 34.23	15.86
	Mars I	22	9.0	11.3	12.6	23.1	24.1	25.5	26.8	27.9	38.2	39.6	41.8	14 25.45	— 0.02	25.52	4 14 50.95	. .
	Mars II	23	46.3	47.8	49.2	50.5	53.3	. .	58.9	1.4	2.6	3.9	5.5	14 25.94	+ 0.23	25.52	4 14 51.69	. .
ε	Tauri	24	4.5	6.6	7.9	18.0	19.1	20.5	21.7	22.7	32.8	34.1	36.2	20 20.37	— 0.02	25.53	4 20 45.88	15.74
	Weisse (2) 512	25	29.0	31.4	32.6	43.3	44.5	45.8	47.1	48.2	58.6	0.0	2.0	23 45.68	0.01	25.53	4 24 11.20	16.36
	Weisse (2) 620	26	28.8	31.1	32.4	43.1	44.3	45.6	47.0	48.0	58.5	59.8	2.0	28 45.51	0.01	25.54	4 29 11.04	16.43
	B. A. C. 1439	27	54.8	57.1	58.6	9.9	11.2	12.6	13.9	15.0	26.0	27.6	29.9	31 12.42	0.05	25.54	4 31 37.91	10.36
	Lacaille 1553	28	52.4	55.1	56.6	9.1	10.3	11.9	13.4	14.7	27.1	28.5	31.1	35 11.84	— 0.06	25.54	4 35 37.32	9.03
	* + 10° 43′ ±	29	56.7	58.0	59.3	0.6	3.0	. .	4.1	6.4	7.7	8.9	10.1	40 33.48	+ 0.21	25.55	4 40 59.24	14.85
	* + 10° 43′ ±	30	23.0	25.0	26.2	. .	. .	. .	. .	. .	50.2	51.3	53.5	40 38.20	+ 0.02	25.55	4 41 3.77	14.85
	* + 10° 43′ ±	31	. .	. .	. .	40.9	42.1	43.3	44.6	45.5	. .	. .	. .	40 43.28	— 0.07	25.55	4 41 8.76	14.85
	* + 10° 43′ ±	32	. .	. .	. .	. .	. .	. .	23.7	26.0	27.1	28.3	29.8	41 26.98	33.78	25.55	4 41 18.75	14.84
	Uranus	33	48.6	50.9	52.3	2.6	3.8	5.1	6.4	7.6	17.7	19.2	21.3	41 5.05	0.02	25.62	5 41 30.65	. .
	Lacaille 2130	34	12.5	14.9	16.3	27.5	28.7	30.0	31.4	32.7	43.5	44.8	47.2	0 29.95	0.05	25.64	6 0 55.54	9.69
	* + 31° 27′	35	. .	. .	. .	5.5	6.7	8.2	9.6	10.8	. .	. .	. .	3 8.16	0.06	25.64	6 3 37.74	17.08
	* + 31° 27′	36	. .	. .	. .	14.8	15.8	17.3	18.7	19.8	. .	. .	. .	3 17.28	0.06	25.64	6 3 42.86	17.08
	Weisse (2) 79	37	3.9	6.3	7.6	19.0	20.2	21.7	23.0	24.3	35.5	36.7	39.0	4 21.57	— 0.01	25.64	6 4 47.20	17.08
	O. Arg. N. 6682	38	34.8	12.1	45.9	20.3	24.1	28.5	32.3	36.0	8.9	13.8	20.6	8 27.94	+ 0.01	25.64	6 8 53.59	+ 32.05
δ	Ursæ Minoris, S. P.	39	. .	. .	. .	27.0	43.5	4.7	24.5	42.5	. .	. .	. .	15 4.44	+ 0.71	25.65		— 74.05
	Weisse (2) 533	40	. .	. .	. .	17.8	18.8	20.2	21.6	22.7	. .	. .	. .	19 20.22	— 0.07	25.66	6 19 45.81	+ 16.09
	Euterpe	41	11.9	14.0	15.4	26.0	27.1	28.3	29.7	30.8	41.2	42.5	44.7	20 28.33	0.02	25.66	6 20 53.97	. .
	* — 31° 5′	42	9.5	11.9	13.2	24.7	25.9	27.2	28.6	29.8	40.9	42.3	44.7	26 27.15	0.05	25.67	6 26 52.77	9.36
γ	Geminorum	43	29.1	30.1	31.4	32.6	33.7	. .	2.4	5.0	6.1	7.2	8.7	29 48.63	17.35	25.67	6 29 56.95	15.14
51	Cephei	44	. .	. .	. .	30.0	52.5	16.5	41.5	5.5	. .	. .	. .	36 17.20	— 0.87	25.68	6 36 41.91	121.05
	O. Arg. N. 7251	45	7.5	16.7	22.3	8.2	12.9	18.6	24.3	29.2	13.5	19.6	29.0	41 18.35	+ 0.02	25.69	6 41 44.06	38.03
	Lacaille 2528	46	7.3	9.6	11.0	22.5	23.5	25.0	26.4	27.6	38.8	40.1	42.3	50 24.92	— 0.05	25.70	6 50 50.57	9.23
	Lacaille 2553	47	52.7	55.1	56.4	7.8	8.9	10.2	11.7	12.8	23.9	25.3	27.6	53 10.22	0.05	25.70	6 53 35.87	9.36
	44 Geminorum	48	31.0	33.2	34.4	45.0	46.2	47.5	48.7	49.8	0.0	1.3	3.4	56 47.32	0.02	25.70	6 57 13.00	15.75
	Weisse (2) 1747	49	30.0	32.4	33.6	44.1	45.2	46.6	47.8	48.9	59.1	0.5	2.5	57 46.43	0.02	25.71	6 58 12.12	15.75
	(+ 132) W.	50	58.3	0.4	1.6	12.1	13.2	14.5	15.8	17.0	27.2	28.4	30.6	1 14.45	— 0.02	+25.71	7 1 40.14	+ 15.70

7-9. Approximate declinations.

February 2, 23h. to 10h. $n = +0.03$.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Feb. 2,	3.8 + 25.49	+ 0.068	— 0.026

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II	III.	IV.	V.	VI.	VII	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 2	O. Arg. N. 7681	1	21.7	32.5	39.0	30.3	36.3	42.1	48.0	53.6	44.0	50.7	1.3	7 41.77	+ 0.02	+25.72	7 8 7.51	+ 40.16
Y.	O. Arg. N. 7755	2	21.6	32.9	38.6	28.8	34.0	40.5	46.8	52.0	41.5	48.0	58.5	11 40.29	+ 0.02	25.72	7 12 6.03	39.54
	O. Arg. S. 6748	3	1.3	4.0	5.3	6.4	7.4	8.8	10.2	11.3	21.9	23.5	25.8	18 8.72	— 0.05	25.73	7 18 34.40	9.64
	O. Arg. S. 6756	4	40.0	41.6	43.2	44.5	47.3	. .	56.1	58.7	0.1	1.5	3.0	18 21.60	+ 0.21	25.73	7 18 47.54	9.64
	O. Arg. S. 6862	5	51.3	53.8	54.9	5.5	6.7	8.1	9.6	10.7	21.3	22.7	24.7	22 8.12	— 0.04	25.73	7 22 33.81	10.02
	O. Arg. S. 6948	6	15.3	16.8	18.4	19.8	22.6	. .	30.4	33.2	34.5	35.8	37.3	24 56.41	+ 0.21	25.74	7 25 22.36	9.84
	O. Arg. S. 6949	7	39.9	42.3	43.7	54.5	55.6	56.8	58.1	59.5	10.2	11.6	13.8	24 56.91	— 0.05	25.74	7 25 22.60	9.84
	O. Arg. S. 7063	8	45.3	47.7	49.0	0.1	1.1	2.5	3.9	5.1	15.9	17.4	19.8	29 2.53	0.05	25.74	7 29 28.22	9.62
	O. Arg. S. 7100	9	53.5	55.8	57.1	8.2	9.4	10.8	12.3	13.4	24.2	25.6	27.8	30 10.73	0.05	25.74	7 30 36.42	9.64
	* — 28° 54′	10	. .	. .	. .	37.4	38.7	41.0	58.0	0.8	2.1	3.4	4.9	30 53.29	29.40	25.74	7 30 49.63	9.65
β	Geminorum	11	22.7	25.0	26.3	37.4	38.6	40.0	41.3	42.6	53.2	54.6	56.8	36 39.86	0.01	25.75	7 37 5.60	15.93
	* — 11° 52′	12	19.6	21.7	22.9	32.9	33.8	35.1	36.3	37.4	47.0	48.3	50.3	40 35.03	0.03	25.75	7 41 0.75	11.85
	Weisse 1232	13	58.7	0.6	1.9	11.7	12.8	14.1	15.2	16.2	25.8	27.2	29.2	41 13.95	0.03	25.75	7 41 39.67	11.85
	Weisse 1238	14	. .	. .	. .	58.8	0.1	2.1	17.4	19.8	21.1	22.5	23.7	42 13.16	26.29	25.75	7 42 12.62	11.85
	* — 26° 2′	15	4.3	6.7	8.0	18.7	19.8	21.1	22.5	23.8	34.5	35.8	37.6	46 21.12	0.04	25.76	7 46 46.84	10.11
	* — 26° 2′	16	48.8	51.0	52.3	3.1	4.2	5.5	6.8	8.0	18.5	19.8	22.0	47 5.45	0.04	25.76	7 47 31.17	10.11
	* — 26° 2′	17	42.3	44.5	45.7	56.0	57.7	59.0	0.3	1.5	11.9	13.4	15.4	47 58.94	0.04	25.76	7 48 24.66	10.12
	O. Arg. S. 7769	18	41.1	43.5	44.8	55.6	56.8	58.2	59.5	0.5	11.3	12.7	15.0	52 58.09	— 0.05	25.77	7 53 23.81	+ 9.93
λ	Ursæ Minoris	19	. .	. .	. .	32.0	25.5	30.0	31.0	25.5	. .	. .	. .	57 28.80	+ 2.20	25.78		— 219.98
ζ	Cancri (1st *)	20	26.3	27.5	29.0	30.4	32.8	. .	36.0	38.4	39.7	41.0	42.2	4 4.33	+ 0.22	25.78	8 4 30.33	+ 14.55
ζ	Cancri (2d *)	21	48.9	51.2	52.5	2.5	3.8	5.0	6.2	7.4	17.2	18.5	20.5	4 4.88	— 0.02	25.78	8 4 30.64	14.85
	* + 20° 23′	22	. .	. .	. .	28.0	29.0	30.3	31.6	32.9	. .	. .	. .	7 30.36	0.07	25.78	8 7 56.07	15.06
	Angelina	23	54.1	55.2	56.6	57.9	58.9	. .	27.9	30.3	31.6	33.2	34.8	8 14.05	17.75	25.78	8 8 22.08	. .
	* — 26° 36′	24	23.3	25.7	26.9	37.7	38.9	40.1	41.5	42.7	53.4	54.7	56.9	13 40.16	0.04	25.79	8 14 5.91	10.16
	O. Arg. S. 8484	25	22.3	24.7	25.8	37.5	38.6	39.8	41.1	42.4	53.4	54.9	57.1	17 39.78	0.05	25.80	8 18 5.53	9.67
	B. A. C. 2843	26	10.1	12.5	13.8	25.2	26.4	27.7	29.0	30.2	41.2	42.7	45.1	21 27.63	0.05	25.80	8 21 53.38	9.57
η	Cancri	27	14.5	16.7	17.9	28.1	29.3	30.5	31.9	33.0	43.0	44.4	46.5	24 30.53	0.02	25.80	8 24 56.31	14.99
	* + 20° 13′	28	19.4	21.5	22.8	33.0	34.2	35.5	36.8	37.9	47.9	49.3	51.4	27 35.44	— 0.02	25.80	8 28 1.22	14.96
	* + 6° 1′	29	50.0	51.2	52.6	53.7	56.4	. .	56.7	59.0	0.2	1.5	2.7	32 26.40	+ 0.21	25.81	8 32 52.42	13.60
	* + 20° 41′	30	10.0	12.1	13.6	23.8	25.0	26.2	27.3	28.5	38.4	39.7	42.0	35 26.05	— 0.02	25.82	8 35 51.85	14.96
	* — 38° 57′	31	. .	. .	. .	. .	. .	. .	53.2	56.4	57.8	59.5	1.1	33 57.60	42.75	25.88	9 33 40.73	9.39
	Massalia	32	48.4	50.5	51.7	1.6	2.7	3.8	5.1	6.1	15.9	17.1	19.0	38 3.81	0.02	25.89	9 38 29.68	. .
μ	Leonis	33	24.4	26.8	27.9	38.8	40.0	41.2	42.5	43.7	54.4	55.7	57.9	44 41.12	0.01	25.90	9 45 7.01	14.83
	* — 27° 47′	34	38.1	40.5	41.7	52.8	54.0	55.2	56.5	57.6	8.4	9.8	12.1	47 55.15	0.05	25.90	9 48 21.00	10.95
π	Leonis	†35	25.8	27.9	29.1	52.8	54.1	56.3	11.0	13.6	14.7	15.9	17.5	52 56.25	15.26	25.90	9 53 6.89	13.62
Feb. 4	Sun I	36	56.4	58.8	59.9	9.7	10.9	12.2	13.2	14.3	24.5	25.8	28.1	12 12.16	0.05	. .		. .
Tr.	Sun II	37	12.6	14.3	15.8	25.7	26.8	28.1	29.2	30.3	40.3	41.7	43.8	14 28.05	0.05	. .		. .
	Venus I	38	17.8	19.5	21.1	30.6	31.5	32.6	33.9	35.0	44.6	45.7	47.7	4 32.73	0.01	27.94	0 5 0.66	0.66
Y.	ε Piscium	39	13.5	15.5	16.8	26.3	27.4	28.6	29.9	30.9	40.5	41.8	43.8	55 28.64	— 0.01	28.07	0 55	15.13
	Polaris	40	. .	. .	. .	34.5	15.5	4.0	53.0	55.5	. .	. .	. .	9 4.50	+ 7.59	28.09	1 9	96.07
	η Piscium	41	11.1	12.5	13.7	14.9	17.4	. .	46.0	47.0	48.2	49.4	50.5	23 31.07	17.21	28.11	1 24	15.36
Tr.	η Tauri	42	44.9	47.0	48.2	58.0	59.7	1.0	2.3	3.4	14.0	15.4	17.4	39 1.03	0.03	28.29	3 39 29.35	16.22
	* + 23° 40′	43	2.2	3.7	5.1	6.4	9.1	. .	. .	17.1	18.4	19.9	21.2	40 38.12	3.42	28.29	3 41 9.83	16.22
	* + 23° 43′	44	26.5	28.6	30.0	40.4	41.4	42.7	44.0	45.2	55.7	57.0	59.3	40 42.80	0.03	28.29	3 41 11.12	16.22
A[1]	Tauri	45	0.4	2.5	3.9	14.0	15.1	16.4	17.6	18.8	29.2	30.4	32.6	56 16.45	0.03	28.31	3 56 44.79	16.04
γ	Tauri	46	24.7	26.7	27.9	37.7	38.8	40.0	41.2	42.3	52.4	53.6	55.6	11 40.08	0.02	28.34	4 12 8.44	15.44
	Mars I	47	40.1	42.4	43.8	54.1	55.2	56.5	57.8	58.9	9.3	40.8	13.1	16 56.55	+ 0.03	28.35	4 17 24.93	. .
	Mars II	48	. .	. .	. .	. .	. .	. .	30.3	33.0	34.4	35.8	37.2	17 34.14	— 36.79	28.35	4 17 25.70	. .
v^6	Eridani	49	28.4	30.5	32.4	43.1	44.5	45.8	47.2	48.5	59.5	0.9	3.0	27 45.80	0.07	28.36	4 28 14.09	10.56
	Rumker 1250	50	0.8	2.1	3.4	4.8	7.4	. .	12.3	15.1	16.4	17.6	19.1	33 39.90	— 0.22	+28.37	4 34 8.05	+ 16.14

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Feb. 2,	3.8	+ 25.49	+ 0.068	— 0.026
4,	6.0	+ 28.51	+ 0.097	— 0.010

35. Unsteady.

February 2. Anonymous stars in Præsepe approximate in declination.

February 2, 9h. 30m. Image east 0.07. Clamp west.
Image east 0.20. Clamp east.

February 4, 21h. to 2h. n. = + 0.15.
3h. to 9h. + 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 4	τ Tauri	1	26.6	27.9	29.5	40.0	41.0	42.1	43.4	44.6	55.0	56.3	58.4	33 42.20	+ 0.03	+28.37	4 34 10.60	+ 16.14
Tr.	Moon I	2	5.9	7.7	9.2	19.4	20.7	22.0	23.2	24.3	34.6	36.1	38.3	37 21.95	+ 0.02	28.37	4 37 50.34	. .
	Lacaille 1615	3	50.8	53.0	54.3	4.7	5.8	7.1	8.4	9.6	20.4	21.6	23.9	45 7.24	— 0.06	28.39	4 45 35.57	10.95
	O. Arg. S. 3494	4	37.2	39.5	40.9	52.0	53.1	54.4	55.8	57.0	7.9	9.0	11.5	48 54.39	— 0.07	28.39	4 49 22.71	10.42
	Weisse (2) 1266	5	35.8	37.9	39.2	49.5	50.6	51.8	53.0	54.1	4.6	5.7	8.0	55 51.84	+ 0.03	28.40	4 56 20.27	15.98
	Weisse 136	6	22.1	24.0	25.4	34.8	36.0	37.1	38.3	39.2	49.2	50.2	52.4	6 37.15	— 0.03	28.42	5 7 5.54	12.78
	* — 8° 21′	7	59.7	1.1	2.4	3.6	5.9	. .	6.6	8.9	10.2	11.5	12.9	7 36.28	0.26	28.42	5 8 4.44	12.78
	β Orionis	8	21.1	23.1	24.4	34.0	35.1	36.2	37.6	38.6	48.3	49.4	51.6	7 36.31	0.03	28.42	5 8 4.70	12.76
	O. Arg. S. 3917	9	58.4	59.8	1.1	2.3	4.8	.	7.2	9.7	11.2	12.4	13.7	17 36.06	0.29	28.44	5 18 4.21	11.82
	O. Arg. S. 3920	10	28.5	30.4	31.9	41.7	42.7	43.9	45.1	46.0	56.3	57.6	59.8	17 44.03	0.05	28.44	5 18 12.42	11.82
	O. Arg. S. 4003	11	11.6	13.9	15.5	26.2	27.5	28.9	30.4	31.5	42.6	44.0	46.3	23 28.95	0.07	28.45	5 23 57.33	9.91
	α Leporis	12	4.2	6.1	7.6	17.6	18.6	19.8	21.1	22.2	32.1	33.5	35.6	26 19.85	0.04	28.45	5 26 48.26	11.56
	ε Orionis	13	40.3	42.2	43.4	53.0	53.9	55.1	56.3	57.3	6.9	8.2	10.2	28 55.16	0.01	28.46	5 29 23.61	13.42
	* — 1° 21′	14	. .	. .	. .	11.8	12.8	13.9	15.1	16.3	26.0	27.0	29.1	29 19.00	4.97	28.46	5 29 42.49	13.42
	O. Arg. S. 4213	15	56.2	58.5	0.0	10.9	12.0	13.4	14.8	16.0	27.0	28.5	30.8	35 13.46	0.07	28.47	5 35 41.86	+ 9.88
	Uranus I	16	10.4	11.9	13.3	14.7	17.1	. .	22.7	25.1	26.6	28.0	29.4	40 49.92	— 0.22	28.48	5 41 18.18	. .
	Uranus II	17	33.8	35.8	37.4	47.7	48.8	50.2	51.5	52.6	3.0	4.4	6.7	40 50.17	+ 0.03	28.48	5 41 18.68	. .
	* — 28° 55′	18	37.2	38.9	40.7	51.9	53.0	54.3	56.1	57.3	7.8	9.4	11.7	48 54.39	— 0.07	28.49	5 49 22.81	9.91
	O. Arg. S. 4453	19	35.8	38.0	39.5	50.2	51.4	52.8	54.2	55.3	6.3	7.7	10.2	49 52.85	0.07	28.49	5 51 21.27	+ 9.80
	δ Ursæ Minoris, S. P.	20	49.5	24.0	44.5	26.0	45.0	5.0	25.5	43.0	22.0	42.5	15.0	15 3.82	1.51	28.53		— 74.46
	Lacaille 2355	21	9.3	11.4	12.9	23.4	24.7	26.3	27.5	28.7	39.7	40.9	43.2	30 26.18	0.07	28.56	6 30 54.67	+ 9.74
	Lacaille 2372	22	57.6	59.8	1.3	12.1	13.1	14.3	15.8	17.1	28.0	29.2	31.7	32 14.54	0.07	28.56	6 32 43.03	9.80
	* — 28° 18′	23	24.5	26.6	28.1	38.9	40.0	41.2	42.6	43.9	54.7	56.1	58.6	33 41.38	0.07	28.56	6 34 9.87	9.80
	O. Arg. S. 5732	24	52.8	55.1	56.6	7.5	8.7	9.9	11.2	12.5	23.6	25.0	27.2	43 10.01	0.07	28.58	6 43 38.52	9.58
	O. Arg. S. 5887	25	26.4	28.6	30.1	40.7	41.9	43.2	44.6	45.9	56.7	57.9	0.2	48 43.29	0.06	28.59	6 49 11.82	9.91
	ε Canis Majoris	26	35.9	38.0	39.5	50.2	51.4	52.8	54.2	55.4	6.3	7.7	10.0	52 52.85	0.07	28.60	6 53 21.38	9.68
	O. Arg. S. 6004	27	. .	. .	. .	17.6	18.7	20.0	21.4	22.6	33.6	34.9	37.3	53 25.76	— 5.72	28.60	6 53 48.64	9.59
	ϕ Geminorum	28	30.9	33.0	34.6	45.0	46.2	47.6	49.0	50.2	1.0	2.4	4.5	44 47.67	+ 0.04	28.68	7 45 16.39	15.96
	Angelina	29	30.9	32.4	33.5	34.8	37.4	. .	. .	. .	. .	. .	. .		35.45	28.71	8 6 37.96	. .
	* + 20° 27′	30	10.8	12.9	14.2	24.4	25.5	26.7	27.9	29.3	39.4	40.6	42.8	6 26.77	+ 0.03	28.71	8 6 55.51	15.11
	* + 6° 17′	31	. .	. .	. .	. .	. .	. .	24.5	26.8	28.3	29.5	30.9	31 28.90	— 33.84	28.75	8 31 22.91	13.65
	Lalande 17053	32	51.2	53.1	54.4	3.7	5.0	6.2	7.3	8.3	18.0	19.2	21.3	32 6.15	0.00	28.75	8 32 34.90	13.65
	ε Hydræ	33	56.1	58.0	59.2	8.8	9.9	11.0	12.2	13.4	23.0	24.1	26.1	39 11.07	0.00	28.77	8 39 39.84	13.62
5	119 Tauri	34	. .	. .	. .	1.9	3.1	5.2	21.1	23.7	25.0	26.5	28.0	24 16.81	27.43	30.66		+ 15.60
E.	Moon I	†35	14.3	16.4	17.7	. .	. .	. .	. .	. .	43.3	44.3	46.4	34 30.40	0.04	30.67	5 35 1.03	. .
	δ Ursæ Minoris, S. P.	†36	. .	. .	. .	25.0	. .	1.0	21.5	39.0	. .	. .	. .	15 6.62	— 6.20	30.73		— 74.66
	α Lyræ	37	30.9	33.4	35.1	47.4	48.6	50.0	51.5	52.9	5.3	6.7	9.6	31 50.13	+ 0.11	31.25	18 32 21.49	+ 10.77
Y.	β Lyræ	38	. .	. .	. .	48.0	49.4	51.9	10.0	12.8	14.4	15.9	17.5	44 4.90	— 30.99	. .		11.57
E.	Mercury	39	28.7	31.1	32.4	42.7	43.8	45.3	46.6	47.5	57.7	58.9	1.7	40 45.13	0.07	31.34	19 41 16.40	. .
6	Sun I	40	. .	. .	. .	8.1	9.2	10.3	11.4	12.4	22.5	23.7	26.1	19 15.46	5.19	31.48	21 19 41.75	. .
	Sun II	41	10.3	12.3	13.8	23.3	24.3	25.6	26.8	28.1	38.0	39.3	41.2	22 25.73	— 0.05	31.48	21 22 57.16	. .
	α Andromedæ	42	36.4	38.7	40.0	50.7	51.9	53.1	54.3	55.7	6.8	8.0	10.3	0 53.26	+ 0.07	31.68	0 1 25.01	15.20
	Venus I	43	6.7	8.7	10.2	19.5	20.6	21.7	22.9	23.9	33.9	34.9	36.9	12 21.81	— 0.01	31.69	0 12 53.49	0.68
	Polaris	44	33.0	26.5	17.0	5.0	41.5	. .	. .	. .	. .	. .	. .	46 24.60	+22 41.95	31.73		. .
	o Tauri	45	45.6	47.9	49.2	59.4	0.2	1.3	2.7	4.0	14.5	15.5	17.9	19 1.65	+ 0.03	32.09	5 19 33.77	16.01
	119 Tauri	46	. .	. .	. .	45.6	46.6	48.0	49.0	50.2	0.3	1.5	3.8	23 53.12	— 5.21	32.10	5 24 20.01	15.61
	α Leporis	47	0.6	2.6	3.7	13.9	14.9	16.0	17.3	18.5	28.7	29.9	32.1	26 16.20	0.04	32.10	5 26 48.26	11.59
	ζ Tauri	48	. .	. .	. .	17.4	18.7	21.0	37.1	39.4	41.0	42.2	43.8	29 32.57	27.84	32.11	5 29 36.84	15.90
	Lacaille 1924	49	. .	. .	. .	41.8	43.1	45.4	3.9	6.9	8.3	10.0	11.3	32 58.84	31.74	32.11	5 32 59.21	9.13
	Lacaille 1967	50	11.5	13.8	15.2	27.1	28.1	29.5	30.9	32.1	43.7	45.2	47.7	37 29.53	— 0.08	+32.12	5 38 1.57	+ 9.22

35. Unsteady.
36. Through clouds.

		s.
February 5.	 n.	= + 0.04.
5–6.	18h. to 1h.	0.15.
6.	5h. to 10h.	+ 0.10.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Feb. 5,	5.4 + 30.66	+ 0.080	— 0.01
6,	4.5 + 32.03	+ 0.078	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb 6	Uranus	1	18.5	20.8	22.2	32.6	33.6	35.0	36.0	37.5	47.9	49.2	51.3	40 34.96	+ 0.03	+32.12	5 41 7.11	. .
E.	Rumker 1576	2	58.5	0.0	1.3	2.5	4.9	. .	. .	. .	. .	. .	. .	40 1.44	36.24	32.12	5 41 9.80	+ 16.17
	χ Orionis	3	37.4	39.6	41.0	51.0	52.3	53.5	54.7	55.7	6.0	7.3	9.2	45 53.43	+ 0.03	32.13	5 46 25.59	15.75
	Lacaille 2070	4	. .	. .	. .	59.8	1.3	3.7	21.4	24.0	25.5	27.0	28.5	51 16.40	— 30.56	32.14	5 51 17.98	9.53
	Lacaille 2092	5	28.3	30.7	32.0	43.5	44.8	46.2	47.7	48.9	0.6	1.8	4.3	53 46.25	0.08	32.14	5 54 18.31	9.12
	* + 1° 46′	6	37.1	38.9	40.1	41.4	43.5	. .	45.8	48.1	49.1	50.5	52.6	59 14.65	— 0.22	32.15	5 59 46.58	15.08
	ν Orionis	7	6.4	8.3	9.7	19.6	20.6	21.7	22.7	23.9	34.1	35.1	37.3	59 21.76	+ 0.02	32.15	5 59 53.93	15.09
	* + 22° 32′	8	58.3	0.3	1.6	11.8	12.9	14.3	15.6	16.6	27.3	28.4	30.6	4 14.34	0.03	32.15	6 4 46.52	15.96
	η Geminorum	9	57.5	59.7	1.2	11.3	12.5	13.8	15.2	16.3	26.5	28.1	30.1	6 13.84	+ 0.03	32.16	6 6 46.03	+ 15.96
	δ Ursæ Minoris, S. P.	10	.	. .	. .	23.0	41.0	1.5	21.5	38.5	. .	. .	. .	15 1.10	— 2.29	32.17		— 74.86
	Lalande 12614	11	. .	. .	. .	46.3	47.7	49.8	5.6	8.0	9.4	10.7	12.6	28 1.31	— 27.11	32.18	6 28 6.38	+ 15.17
	γ Geminorum	12	9.0	11.2	12.5	22.4	23.6	24.8	26.0	27.1	37.2	38.3	40.4	29 24.77	+ 0.02	32.19	6 29 56.98	15.16
	Moon I	13	11.1	13.0	14.4	24.8	26.0	27.1	28.4	29.7	39.9	41.1	43.3	30 27.16	0.02	32.19	6 30 59.37	. .
	ξ Geminorum	14	57.5	59.5	0.7	10.2	11.4	12.7	14.0	15.0	24.9	26.0	28.1	37 12.73	+ 0.01	32.19	6 37 44.93	14.74
	O. Arg. S. 5863	15	24.6	26.7	28.3	39.0	40.2	41.4	43.0	44.1	55.1	56.3	58.5	47 41.56	— 0.07	32.21	6 48 13.70	9.76
	Lacaille 2528	16	1.0	3.5	4.9	16.0	17.0	18.4	19.7	20.9	32.3	33.8	36.0	50 18.50	0.07	32.21	6 50 50.64	9.27
	Lacaille 2553	17	46.5	48.5	50.0	1.2	2.5	3.7	5.2	6.4	17.7	19.0	21.6	53 3.84	0.07	32.22	6 53 35.99	9.38
	* — 30° 56′	18	. .	. .	. .	27.3	28.3	29.8	31.3	32.4	. .	. .	. .	54 29.82	0.02	32.22	6 55 2.02	9.37
	* — 30° 55′	19	16.9	18.9	20.6	. .	. .	. .	. .	. .	48.0	49.5	51.7	54 34.27	0.11	32.22	6 55 6.38	9.37
	* — 30° 33′	20	21.3	24.0	25.2	36.0	37.2	38.8	40.3	41.3	52.8	54.2	56.4	58 38.86	0.07	32.22	6 59 11.01	9.43
	Lacaille 2623	21	56.5	57.9	59.3	0.7	3.3	. .	10.2	12.5	14.2	15.5	17.0	1 36.71	0.31	32.23	7 2 8.63	10.07
	O. Arg. S. 6262	22	22.0	23.6	24.9	26.2	29.0	. .	35.6	38.0	39.4	41.1	42.5	2 2.23	0.31	32.23	7 2 34.15	10.08
	δ Canis Majoris	23	. .	. .	. .	21.6	22.7	23.9	25.5	26.6	. .	. .	. .	2 24.06	— 0.01	32.23	7 2 56.28	10.09
	λ Geminorum	24	34.5	36.5	38.8	47.8	48.9	50.0	51.2	52.2	2.6	3.8	5.7	9 50.10	+ 0.01	32.24	7 10 22.35	15.02
	δ Geminorum	25	. .	. .	. .	46.5	47.8	50.0	6.2	8.7	10.1	11.6	13.2	12 1.76	— 28.06	32.24	7 12 5.94	15.60
	Weisse (2) 1143	26	. .	. .	. .	41.0	42.4	44.6	1.0	3.5	4.8	6.1	7.5	39 56.36	27.90	32.28	7 40 0.74	15.36
	Weisse (2) 1305	27	30.3	32.3	33.9	43.8	45.1	46.3	47.6	48.7	59.0	0.3	2.6	45 46.35	0.03	32.29	7 46 18.67	15.33
	* (133) W.	28	22.0	23.5	24.9	26.0	28.5	. .	29.8	32.0	33.4	34.7	36.0	48 59.08	— 0.22	32.29	7 49 31.15	14.34
	δ Cancri	29	47.9	49.9	51.2	1.0	2.0	3.1	4.3	5.3	15.4	16.5	18.5	57 3.19	+ 0.01	32.30	7 57 35.50	14.45
	Lacaille 3165	30	53.7	56.1	57.5	8.5	9.5	11.0	12.4	13.4	24.7	26.0	28.4	3 11.02	— 0.07	32.31	8 3 43.26	9.69
	* — 28° 33′	31	45.0	47.3	48.6	. .	. .	. .	. .	. .	. .	. .	. .	5 46.97	+ 14.97	32.31	8 6 34.25	9 96
	* — 30° 28′	32	. .	. .	. .	7.0	8.2	9.6	11.0	12.4	. .	. .	. .	14 9.64	— 0.02	32.32	8 14 41.94	9 66
	* — 26° 40′	33	50.2	52.5	53.9	. .	. .	. .	40.9	43.4	44.7	46.2	47.5	20 24 91	— 18.04	32.33	8 20 39.20	10 22
	c^1 Cancri	34	1.4	3.5	4.8	14.3	15.4	16.5	17.7	18.8	28.5	29.7	32.0	29 16.60	+ 0.01	32.34	8 29 48.95	14 00
	39 Cancri	35	34.5	36.5	38.0	48.0	49.2	50.3	51.6	52.7	3.0	4.2	6.4	31 50.40	+ 0.03	32.34	8 32 22.77	14 94
	40 Cancri	36	17.1	18.7	20.0	21.3	23.7	. .	27.8	30.3	31.7	33.1	34.4	31 55.81	— 0.21	32.34	8 32 27.94	14 94
	δ Cancri	37	15.0	16.9	18.3	28.2	29.4	30.7	32.0	33.1	43.2	44.4	46.6	36 30.71	+ 0.02	32.35	8 37 3.08	14 74
	10 Leonis	38	19.9	21.7	22.9	32.4	33.4	34.9	36.0	37.0	46.7	48.0	50.0	29 34.81	0.00	32.42	9 30 7.23	13 61
	e Leonis	39	. .	. .	. .	. .	. .	. .	14.1	16.6	18.2	19.4	21.0	38 17.86	— 36.91	32.43	9 38 13.38	+ 14 75
13	Sun II	40	9.9	12.1	13.5	23.2	24.0	25.0	26.4	27.6	37.4	38.6	40.6	50 25.30	0.06	10.76	21 50 36.00	— 66.80
	α Andromedæ	41	. .	. .	. .	11.4	12.5	14.2	15.4	16.5	27.7	29.9	31.6	1 19.72	— 5.53	10.84	0 1 25.03	+ 15.26
	Venus 1	42	33.6	35.5	36.8	46.4	47.5	48.7	49.7	50.8	0.4	1.5	3.6	39 48.59	+ 0.01	10.86	0 39 59.46	0.72
	Polaris	43	3.0	19.0	53.0	. .	5.0	25.0	15.0	. .	. .	. .	. .	53 54.50	15 27.03	10.87		103.25
	Uranus	44	6.1	8.1	9.6	20.1	21.2	22.3	23.7	24.9	35.5	36.9	39.0	40 22.49	0.08	11.04	5 40 33.61	. .
	B. A. C. 1867	45	. .	. .	. .	6.2	7.2	8.4	9.6	11.0	. .	. .	. .	45 8.48	0.11	11.04	5 45 19.63	15.85
	χ^1 Orionis	46	58.1	0.5	1.7	11.9	13.0	14.2	15.4	16.5	26.8	28.0	30.2	46 14.21	+ 0.06	11.04	5 46 25.31	15.84
	O. Arg. S. 4499	47	33.8	36.1	37.6	48.6	49.8	50.9	52.4	53.5	4.5	5.7	8.1	52 51.00	— 0.12	11.05	5 53 1.93	+ 10.00
	δ Ursæ Minoris, S. P.	48	. .	. .	. .	47.5	6.0	25.5	46.0	4.5	. .	. .	. .	15 25.90	3.98	11.06		— 76.96
	Lacaille 2623	49	40.6	43.1	44.5	55.2	56.1	57.5	58.8	0.0	10.7	12.0	14.5	1 57.55	0.11	11.09	7 2 8.53	+ 10.17
	δ Canis Majoris	50	28.6	30.8	32.3	42.6	43.8	45.4	46.5	47.8	58.2	59.7	2.0	2 45.25	— 0.11	+11.09	7 2 56.23	+ 10.16

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 13, 6.8	+ 11.08	+ 0.036	— 0.01

1. Through clouds.
40. Very unsteady.

Feb. 6, 19h. Shortened the pendulum of the clock two divisions.

Feb. 13, n. = +0.20.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension	Reduct'n to 1870.0.
1885.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 13	Lacaille 2641	1	..	..	..	57.7	58.8	0.5	1.6	2.6	..	..	..	4 0.24	— 0.05	+11.09	7 4 11.28	+ 10.35
E.	* — 24° 52′	2	45.4	48.0	49.5	..	..	..	..	..	15.2	16.4	18.5	4 2.17	0.14	11.09	7 4 13.12	10.34
	O. Arg. S. 6490	3	30.4	32.6	34.1	44.9	46.0	47.3	48.8	49.9	1.0	2.3	4.5	9 47.44	0.12	11.09	7 9 58.41	9.88
	* — 29° 28′	4	15.4	17.7	19.3	30.1	31.2	32.6	34.2	35.3	46.3	47.9	50.0	11 32.73	0.12	11.09	7 11 43.70	9.67
	O. Arg. S. 6600	5	55.7	58.0	59.5	10.0	11.0	12.4	13.7	14.8	25.5	26.9	29.3	13 12.44	0.11	11.09	7 13 23.42	10.14
	O. Arg. S. 6623	6	44.4	46.5	47.9	58.7	59.6	1.2	2.6	3.7	14.2	15.7	17.9	14 1.13	0.11	11.10	7 14 12.12	10.14
	Lacaille 2768	7	37.0	39.4	40.7	51.3	52.6	53.9	55.4	56.3	7.3	8.5	10.9	17 53.94	— 0.12	11.10	7 18 4.92	9.96
6	Canis Minoris	8	52.8	54.7	56.1	5.7	6.9	8.0	9.2	10.2	20.1	21.1	23.2	22 8.00	+ 0.03	11.10	7 22 19.13	14.52
	Weisse (2) 727	9	59.1	1.1	2.5	12.4	13.7	14.8	15.9	17.2	27.2	28.2	30.3	25 14.76	0.05	11.10	7 25 25.91	14.92
68	Geminorum	10	..	..	..	42.9	44.3	45.6	46.5	47.8	..	..	..	25 45.42	0.10	11.11	7 25 56.63	14.91
6	Cancri	11	24.2	25.7	26.9	28.3	30.4	..	..	..	..	..	..	54 27.10	37.75	11.12	7 55 15.97	16.01
	Weisse (2) 1520	†12	8.5	10.9	12.2	23.5	24.3	25.5	27.1	28.1	39.0	40.9	42.8	55 25.71	0.10	11.12	7 55 36.93	16.04
μ^2	Cancri	13	24.1	26.0	27.5	37.7	38.8	40.1	41.5	42.6	53.1	54.1	56.4	59 40.17	+ 0.07	11.12	7 59 51.36	15.32
	* — 33° 11′	†14	..	..	..	39.8	41.0	42.0	43.1	44.0	..	..	..	2 41.98	— 0.09	11.12	8 2 53.01	9.32
	* — 28° 33′	15	5.8	8.5	9.5	20.1	21.4	22.9	24.4	25.5	36.3	37.7	40.2	6 22.94	0.12	11.13	8 6 33.95	9.92
	* — 30° 7′	16	53.8	55.9	57.4	8.2	9.3	10.6	12.1	13.0	24.4	25.8	28.1	10 10.78	0.13	11.13	8 10 21.78	9.72
	* — 34° 59′	17	..	..	..	11.8	13.1	14.5	16.1	17.3	..	..	..	13 14.56	0.10	11.13	8 13 25.59	9.00
	* — 29° 12′	18	36.1	38.4	39.9	50.5	51.8	53.1	54.5	55.6	6.8	8.3	10.4	16 53.22	0.12	11.13	8 17 4.23	9.89
	* — 26° 40′	19	11.1	13.3	14.8	25.6	26.7	28.3	29.4	30.4	41.4	42.5	44.8	20 28.03	0.11	11.14	8 20 39.06	10.24
	* — 26° 50′	20	21.4	23.8	25.2	35.6	36.6	38.1	39.3	40.5	51.5	52.7	54.9	23 38.15	— 0.11	11.14	8 23 49.18	10.24
c^1	Cancri	21	22.4	24.3	25.7	35.4	36.4	37.6	38.8	39.8	49.8	50.9	53.0	29 37.65	+ 0.03	11.14	8 29 48.82	13.99
η	Virginis	22	35.8	38.0	39.1	48.6	49.6	50.7	51.8	52.9	2.6	3.6	5.7	12 50.76	— 0.01	11.28	12 13 2.03	13.29
	Moon II	23	48.3	50.4	51.6	1.3	2.5	3.7	4.9	6.0	15.9	17.0	19.0	17 3.69	0.02	11.28	12 17 14.95	..
	O. Arg. S. 12232	24	16.7	18.7	20.2	31.4	32.3	33.5	35.0	36.2	47.3	48.4	50.9	25 33.69	0.12	11.28	12 25 44.85	13.12
q	Virginis	25	..	..	..	..	..	..	10.1	12.6	13.9	15.1	16.5	27 13.64	34.08	11.28	12 26 50.84	13.33
f	Virginis	26	26.2	28.1	29.3	38.8	39.8	40.1	42.1	43.2	52.9	54.0	56.2	29 40.06	— 0.03	11.28	12 29 51.31	13.36
Tr.	α Aquilæ	27	45.3	47.3	48.5	58.1	59.2	0.3	1.5	2.7	12.3	13.6	15.7	44 0.41	+ 0.02	11.21	19 44 11.64	14.76
	Mercury	28	24.0	26.2	..	37.8	..	40.1	41.2	..	52.7	54.1	..	26 39.44	+ 0.52	11.24	20 26 51.20	.
14	Sun I	†29	34.4	..	49.6	..	..	5.0	..	..	20.6	..	36.2	52 5.16	— 0.14	11.69	21 52 16.71	..
	Sun II	†30	48.0	..	3.4	..	..	18.4	..	..	34.0	..	49.4	54 18.64	— 0.14	11.69	21 54 30.19	..
α	Andromedæ	†31	39.0	..	56.4	..	..	12.9	..	..	30.5	..	47.6	1 13.28	+ 0.01	11.78	0 1 25.07	15.27
γ	Pegasi	†32	34.5	..	50.0	..	..	5.6	..	..	21.0	..	36.6	6 5.54	— 0.04	11.78	0 6 17.28	15.27
	Venus I	†33	6.3	..	21.6	..	..	36.5	..	..	51.6	..	7.0	43 36.60	— 0.07	11.81	0 43 48.34	0.74
	Polaris	34	..	..	..	40.0	21.0	10.0	59.0	43.0	..	..	..	9 10.60	+ 9.63	11.83	..	..
	Uranus	35	1.7	3.8	5.0	15.4	16.4	17.8	19.2	20.4	30.8	32.0	34.2	40 17.88	0.11	11.63	5 40 29.62	..
α	Orionis	36	27.0	29.0	30.1	39.8	40.8	42.0	43.1	44.3	53.9	55.0	57.0	47 42.00	+ 0.03	11.63	5 47 53.66	+ 14.40
δ	Ursæ Minoris, S. P.	37	..	..	..	50.0	8.0	27.0	50.0	6.0	..	..	..	15 28.20	— 5.50	11.65	..	— 77.27
γ	Geminorum	38	29.6	31.6	33.0	42.7	43.8	45.1	46.3	47.5	57.4	58.6	0.8	29 45.13	+ 0.07	11.66	6 29 56.86	+ 15.24
	Weisse (2) 935	39	26.3	28.5	30.0	40.2	41.4	42.5	43.8	45.1	55.6	57.0	58.9	31 42.66	0.12	11.66	6 31 54.44	16.09
	* + 23° 49′	40	33.1	35.3	36.7	47.1	48.2	49.4	50.6	52.0	2.6	3.8	6.0	35 49.53	0.12	11.66	6 36 1.31	16.07
	* + 23° 49′	41	1.5	3.8	5.1	15.4	16.7	..	19.0	20.2	30.9	32.1	34.3	37 17.90	0.11	11.66	6 37 29.67	16.06
	Weisse (2) 1163	†42	1.2	3.4	4.8	15.1	16.2	17.5	18.8	20.0	30.6	31.8	34.1	38 17.59	+ 0.12	11.67	6 38 29.38	16.06
	Moon II	†43	19.3	21.2	22.8	32.2	33.3	34.4	35.9	37.6	46.7	48.1	50.1	3 34.69	— 0.05	11.94	13 3 46.58	..
α	Virginis	44	40.0	42.0	43.2	52.8	53.8	55.1	56.3	57.4	7.1	8.3	10.5	17 55.14	0.06	11.95	13 18 7.03	13.83
	Polaris	†45	..	..	..	..	..	..	52.0	27.0	13.0	3.0	55.0	32 6.00	22 37.28	11.96	..	104.30
19	Scorpii	46	34.8	37.0	38.5	49.1	50.4	51.7	52.9	54.0	4.8	6.2	8.5	20 51.63	0.14	17.83	16 21 9.32	17.07
Y.	ζ Ophiuchi	47	11.6	13.7	15.0	24.7	25.7	26.9	28.0	29.2	38.8	40.0	42.0	29 26.87	— 0.06	17.84	16 29 44.65	+ 15.44
	ϵ Ursæ Minoris	48	..	..	..	12.8	20.4	29.4	38.0	45.4	..	..	..	59 20.20	+ 2.10	17.87	16 59 49.17	— 26.29
	η Ophiuchi	49	5.7	7.9	9.2	19.0	20.0	21.2	22.5	23.7	33.5	34.7	36.9	2 21.30	— 0.08	17.87	17 2 39.09	— 16.28
	Moon II	50	34.1	36.2	37.5	47.9	49.0	50.3	51.5	52.6	3.3	4.5	6.7	22 50.33	— 0.10	+17.89	17 23 8.12	..

12. Very unsteady.
14. Faint; uncertain.
29, 30, 31, 32, 33. Observations made with eye and ear.
42. Clouds.
43. Through clouds.
45. Clouds.

s.
February 13–14, 19h. to 2h. n. = + 0.20.
14, 5h. to 14h. + 0.29.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 14, 5.3	+ 11.61	+ 0.042	— 0.01
0.0	11.78	0.039	
19, 17.0	+ 17.87	+ 0.060	

DATE.	OBJECT.	Number	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 19	α Ophiuchi	1	7.3	9.4	10.6	20.3	21.4	22.6	23.8	25.0	34.8	35.9	38.0	28 22.65	+ 0.04	+17.90	17 28 40.59	— 13.43
Y.	μ Herculis	2	35.8	38.2	39.6	50.4	51.5	52.7	54.0	55.5	6.2	7.4	9.6	40 52.81	0.12	17.91	17 41 10.84	+ 11.53
	δ Ursæ Minoris	†3	8.0	29.0	50.0	9.0	50.0	. .	. .	. .	. .	. .	. .	5 53.20	9 23.02	17.94		— 78.85
	α Aquilæ	4	38.7	40.5	41.7	51.5	52.4	53.6	54.7	55.8	5.5	6.7	8.7	43 53.62	0.03	18.10	19 44 11.75	+ 14.64
E.	α Cygni	5	9.7	12.5	14.3	27.6	29.0	30.7	32.5	33.8	47.5	49.1	51.8	36 30.77	+ 0.24	18.14	20 36 49.15	10.86
	Mercury	†6	16.0	16.8	18.1	19.3	20.5	. .	50.5	52.8	54.2	55.4	56.7	3 36.03	— 17.90	18.17	21 3 36.30	. .
20	Sun I	7	53.2	55.0	56.5	6.2	7.1	8.5	9.7	10.7	20.7	21.7	23.4	15 8.43	0.05	18.24	22 15 26.62	. .
	Sun II	8	5.7	7.7	8.8	18.4	19.4	20.5	21.6	22.9	32.7	34.0	35.9	17 20.69	— 0.05	18.24	22 17 38.88	. .
	Polaris	9	37.0	29.0	18.0	8.0	45.0	. .	. .	. .	. .	. .	. .	46 27.40	+22 42.49	18.39		107.57
	Venus I	10	48.2	50.2	51.5	1.1	2.2	3.5	4.7	5.7	15.5	16.6	18.6	6 3.44	0.02	18.40	1 6 21.86	0.78
	Uranus	11	35.9	38.1	39.4	49.6	50.8	52.1	53.4	54.4	5.0	6.3	8.5	39 52.14	0.07	18.67	5 40 10.88	. .
	Rumker 1576	12	34.6	36.7	38.1	48.6	49.6	50.8	52.0	53.3	3.9	4.9	7.2	40 50.88	0.07	18.67	5 41 9.62	16.37
	* + 23° 40′	13	. .	. .	. .	10.3	11.3	12.5	13.9	15.1	. .	. .	. .	41 12.62	0.12	18.67	5 41 31.36	16.38
χ^1	Orionis	14	50.6	52.7	54.0	4.2	5.1	6.5	7.7	8.9	19.2	20.5	22.6	46 6.55	+ 0.06	18.67	5 46 25.28	15.95
	B. A. C. 1894	15	. .	. .	. .	. .	. .	. .	17.5	20.2	21.6	23.3	24.7	49 21.46	— 38.65	18.67	5 49 1.48	10.16
	* — 29° 13′	16	45.3	47.6	49.0	0.0	1.1	2.5	3.9	5.0	15.8	17.3	19.7	50 2.47	0.11	18.67	5 50 21.03	10.15
	O. Arg. S. 4527	17	14.5	16.9	18.5	29.2	30.3	31.9	33.1	34.2	45.3	46.7	49.1	54 31.79	0.11	18.68	5 54 50.36	10.11
	* + 14° 49′	18	50.5	51.9	53.3	54.3	56.8	. .	58.9	1.4	2.7	3.9	5.4	59 27.91	— 0.20	18.68	5 59 46.39	15.27
ν	Orionis	19	19.7	21.7	23.0	32.9	33.8	35.0	36.3	37.4	47.1	48.4	50.5	59 35.07	+ 0.04	18.68	5 59 53.79	15.27
η	Geminorum	20	11.0	12.9	14.4	24.6	25.7	27.1	28.4	29.4	39.7	41.0	43.2	6 27.04	+ 0.06	18.69	6 6 45.79	16.14
	Lacaille 2189	21	. .	. .	. .	22.4	23.5	24.8	26.2	27.5	. .	. .	. .	7 24.88	— 0.06	18.69	6 7 43.51	+ 10.13
δ	Ursæ Minoris, S P.	22	. .	. .	. .	42.5	0.0	20.0	40.5	57.5	. .	. .	. .	15 20.10	— 3.64	18.70		— 78.71
	Weisse 935	23	19.2	21.3	22.8	33.2	34.3	35.5	36.8	38.0	48.4	49.7	52.0	31 35.56	+ 0.07	18.71	6 31 54.34	+ 16.18
	* + 23° 46′	24	. .	. .	. .	54.5	55.7	56.9	58.3	59.5	. .	. .	. .	31 56.98	0.12	18.71	6 32 15.81	16.16
ξ	Geminorum	25	10.7	12.5	14.0	23.8	24.8	26.0	27.2	28.2	38.2	39.3	41.4	37 26.01	+ 0.03	18.72	6 37 44.76	14.89
	Weisse (2) 1172	26	. .	. .	. .	. .	. .	. .	54.2	56.9	58.2	59.6	1.2	38 58.02	— 36.70	18.72	6 38 40.04	16.13
	* — 30° 15′	27	23.9	26.3	27.7	38.6	39.8	41.2	42.6	43.7	54.8	56.2	58.7	46 41.23	0.12	18.73	6 46 59.84	9.69
	Lacaille 2519	28	39.8	42.0	43.7	54.9	55.9	57.3	58.7	59.9	11.0	12.6	15.0	48 57.35	0.12	18.73	6 49 15.96	9.47
	Lacaille 2528	29	14.2	16.5	18.0	29.1	30.2	31.7	33.2	34.4	45.7	47.0	49.4	50 31.76	0.12	18.73	6 50 50.37	9.47
	Lacaille 2562	30	54.2	56.4	58.0	8.6	10.0	11.3	12.5	13.8	24.8	26.2	28.5	54 11.30	— 0.11	18.73	6 54 29.92	9.79
44	Geminorum	31	38.3	40.2	41.5	51.9	52.9	54.1	55.3	56.6	6.9	8.3	10.5	56 54.14	+ 0.07	18.73	6 57 12.94	15.90
	Lacaille 2623	32	. .	. .	. .	47.4	48.6	49.7	51.2	52.4	. .	. .	. .	1 49.88	— 0.05	18.74	7 2 8.55	10.27
	O. Arg. S. 6262	33	. .	. .	. .	12.9	14.3	15.5	16.9	18.0	. .	. .	. .	2 15.52	0.05	18.74	7 2 34.21	10.27
δ	Canis Majoris	34	20.9	22.9	24.4	34.9	36.2	37.6	38.7	40.0	50.4	51.9	54.2	2 37.46	0.10	18.74	7 2 56.10	10.26
	Lacaille 2666	35	13.0	14.7	16.0	17.2	20.0	. .	27.4	30.2	31.6	32.9	34.4	7 53.74	0.14	18.75	7 8 12.35	10.12
	O. Arg. S. 6442	36	. .	. .	. .	7.4	8.7	9.9	11.4	12.6	. .	. .	. .	8 10.00	0.05	18.75	7 8 28.70	10.12
	O. Arg. S. 6553	37	45.8	47.4	49.0	50.3	52.9	. .	2.7	5.4	6.8	8.2	10.0	11 27.85	0.38	18.75	7 11 46.22	9.59
	O. Arg. S. 6554	38	10.3	12.4	14.1	25.1	26.3	27.7	28.9	30.1	41.2	42.7	44.9	11 27.61	0.12	18.75	7 11 46.24	9.59
	O. Arg. S. 6666	39	58.6	0.9	2.4	. .	. .	. .	. .	. .	29.0	30.5	32.7	15 15.68	0.15	18.75	7 15 34.28	9.99
	O. Arg. S. 6678	40	7.2	8.6	10.1	11.6	14.2	. .	22.2	24.9	26.4	27.7	29.2	15 48.21	— 0.37	18.75	7 16 6.59	9.99
63	Geminorum	41	10.8	12.9	14.5	24.7	25.7	26.9	28.2	29.3	39.8	41.0	43.1	19 26.99	+ 0.06	18.76	7 19 45.81	15.62
	Lacaille 2813	42	58.2	0.5	1.8	12.4	13.6	14.9	16.3	17.5	28.2	29.6	32.0	22 15.00	— 0.10	18.76	7 22 33.66	10.19
α	Geminorum	43	24.5	26.8	28.3	39.4	40.5	42.1	43.6	44.7	56.0	57.5	59.8	25 42.11	+ 0.10	18.76	7 26 0.97	16.85
	O. Arg. S. 8852	44	. .	. .	. .	24.3	25.5	26.8	28.1	29.2	. .	. .	. .	34 26.78	— 0.05	18.77	8 34 45.50	10.33
	O. Arg. S. 8856	45	56.6	58.2	59.7	1.1	3.7	. .	10.6	13.6	14.8	16.2	17.7	34 37.22	— 0.35	18.77	8 34 55.64	10.34
ϵ	Hydræ	46	6.1	7.9	9.2	18.8	19.8	21.0	22.1	23.2	32.9	34.0	36.2	39 21.02	+ 0.01	18.83	8 39 39.86	13.61
	* — 27° 42′	47	26.4	28.5	29.9	40.5	41.9	43.2	44.4	45.7	56.5	57.7	0.2	43 43.17	— 0.11	18.83	8 44 1.89	10.28
	* — 31° 35′	48	11.6	14.0	15.4	26.5	27.5	28.9	30.3	31.5	42.9	44.1	46.6	49 29.03	0.12	18.84	8 49 47.75	9.83
	Lacaille 3621	49	22.8	24.9	26.3	37.0	38.2	39.5	40.8	42.0	53.0	54.1	56.5	53 39.55	0.10	18.85	8 53 58.30	10.41
	O. Arg. S. 9310	50	11.0	13.2	14.5	25.0	26.2	27.6	28.9	30.0	40.9	42.0	44.3	58 27.60	— 0.10	+18.85	8 58 46.35	+ 10.53

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Feb. 20,	2.8	+ 18.50	+ 0.057	— 0.01
	18.0	+ 19.14	+ 0.060	

3. Faint.
6. Unsteady.

February 19, n. = + s. 0.25.
20, + 0.18.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 20	O. Arg. S. 9344	1	59.2	1.1	2.5	13.2	14.3	15.5	16.8	18.0	28.6	29.8	32.0	0 15.55	— 0.09	+18.85	9 0 34.31	+ 10.87
E.	O. Arg. S. 9418	2	16.4	18.7	20.3	31.0	32.3	33.6	34.9	36.4	47.3	48.6	50.9	3 33.67	— 0.11	18.86	9 3 52.42	10.25
	π^3 Cancri	3	14.6	16.6	17.9	27.9	28.9	30.2	31.3	32.3	42.4	43.4	45.5	7 30.09	+ 0.04	18.86	9 7 48.99	14.26
	Weisse 153	4	. .	. .	. .	6.7	7.7	9.0	10.3	11.6	. .	. .	. .	8 9.05	+ 0.09	18.86	9 8 28.00	14.26
	* — 28° 30′	5	23.0	25.7	27.3	. .	. .	. .	. .	. .	53.0	55.2	57.2	11 40.40	— 0.15	18.86	9 11 59.11	10.40
	* — 28° 35′	6	2.8	5.4	6.7	17.4	18.5	20.0	21.4	22.6	33.5	34.8	37.2	14 20.03	0.11	18.87	9 14 38.79	10.41
	Lacaille 3802	7	26.9	28.9	30.8	41.3	42.6	44.0	45.4	46.7	57.6	59.2	1.4	16 44.07	0.12	18.87	9 17 2.82	10.29
	O. Arg. S. 9661	8	. .	. .	. .	7.5	8.7	10.0	11.4	12.6	. .	. .	. .	17 10.04	— 0.07	18.87	9 17 28.84	10.29
	Lalande 18604	9	1.0	3.1	4.4	13.9	15.1	16.3	17.6	18.6	28.3	29.7	31.9	20 16.35	+ 0.03	18.87	9 20 35.25	14.08
	Massalia	10	55.4	57.3	58.9	8.6	9.7	10.9	12.2	13.1	23.1	24.4	26.3	21 10.90	0.03	18.87	9 21 29.80	. .
	h Leonis	11	11.5	13.4	14.9	24.5	25.5	26.6	27.9	28.9	38.5	40.0	41.8	24 26.68	0.02	18.88	9 24 45.58	13.76
	α Ophiuchi	12	6.1	8.0	9.3	19.2	20.2	21.4	22.7	23.8	33.5	34.7	36.9	28 21.44	+ 0.03	19.11		13.40
	Moon II	13	15.9	18.1	19.5	29.8	30.8	32.2	33.4	34.5	45.3	46.4	48.4	21 32.21	— 0.07	19.16	18 21 51.30	. .
	α Lyræ	14	43.5	46.0	47.5	59.7	0.9	2.5	3.9	5.3	17.8	19.3	21.9	32 2.57	+ 0.13	19.17		10.36
Y.	γ Aquilæ	15	16.2	18.0	19.5	29.0	30.1	31.3	32.5	33.5	43.3	44.5	46.6	39 31.32	0.02	19.13	19 39 50.47	14.25
	α Aquilæ	16	37.5	39.4	40.7	50.3	51.4	52.6	53.8	54.9	4.5	5.8	7.7	43 52.60	+ 0.02	19.13	19 44 11.75	14.62
	Mercury	†17	17.2	19.4	20.5	. .	. .	. .	. .	. .	45.7	46.8	49.0	9 33.10	— 0.11	19.16	21 9 52.15	. .
21	Sun I	18	41.5	43.3	44.6	54.3	55.4	56.6	57.7	58.8	8.8	9.9	11.9	18 56.62	0.04	19.31	22 19 15.89	. .
	Sun II	19	53.4	55.4	56.8	6.5	7.5	8.7	9.8	11.0	20.5	21.7	24.1	21 8.67	— 0.04	19.31	22 21 27.94	. .
	Venus I	20	29.6	31.7	33.0	42.5	43.5	44.8	45.9	47.1	56.9	58.1	0.2	9 44.85	+ 0.02	19.49	1 10 4.36	0.79
	Polaris	21	. .	. .	. .	5.0	53.5	13.0	37.0	13.5	3.0	56.0	47.0	26 43.50	—17 35.43	19.51		108.18
	β Arietis	22	36.3	8.5	9.8	49.8	50.9	52.2	53.4	54.6	4.9	6.0	8.2	46 52.24	+ 0.06	19.53	1 47 11.83	15.92
	α Arietis	23	58.8	1.0	2.5	12.7	13.9	15.2	16.4	17.6	28.0	29.3	31.5	59 15.17	0.06	19.55	1 59 34.78	16.17
	Weisse 1047	24	55.0	57.2	58.8	9.4	10.5	11.8	13.1	14.3	25.3	26.6	28.9	47 11.90	+ 0.08	19.73	4 47 31.71	17.03
	* — 39° 58′	25	. .	. .	. .	. .	. .	. .	10.2	13.0	14.6	16.5	18.3	51 14.52	— 44.05	19.74	4 50 50.21	9.10
	Lacaille 1659	26	. .	. .	. .	33.0	34.4	35.8	37.4	38.7	51.3	52.7	55.6	50 42.36	6.63	19.74	4 50 55.47	9.10
	Lacaille 1678	27	59.6	2.1	3.5	15.5	16.7	18.2	19.7	21.0	33.0	34.6	37.0	54 18.26	0.15	19.74	4 54 37.85	9.53
	11 Orionis	28	30.8	31.8	33.2	34.3	35.4	. .	4.5	6.9	8.3	9.5	10.8	56 50.55	17.37	19.74	4 56 52.92	15.57
	* + 4° 14′	29	53.9	55.9	57.1	6.6	7.7	8.8	10.0	11.0	20.7	21.9	23.9	3 8.86	0.00	19.75	5 3 28.61	14.38
	Weisse 55	30	42.2	43.6	44.9	46.2	48.4	. .	48.7	51.0	52.4	53.7	55.1	4 18.62	— 0.23	19.75	5 4 38.14	14.38
	Weisse 56	31	3.2	5.1	6.3	15.8	16.9	18.1	19.3	20.3	30.1	31.2	33.2	4 18.14	0.00	19.75	5 4 37.89	14.38
	Weisse 145	32	1.4	3.3	4.6	14.0	15.1	16.2	17.3	18.4	. .	. .	. .	7 11.29	+ 4.99	19.75	5 7 36.03	14.18
	Weisse 153	33	. .	. .	. .	38.1	39.0	40.2	41.4	42.5	. .	. .	. .	7 40.24	+ 0.05	19.75	5 8 0.04	14.18
	Weisse 156	34	. .	. .	. .	56.4	57.5	59.6	14.8	17.2	18.3	19.7	21.0	8 10.56	— 26.03	19.75	5 8 4.28	14.18
	(* 131) W.	35	54.5	56.6	57.8	7.2	8.2	9.4	10.5	11.7	21.4	22.5	24.5	12 9.48	— 0.01	19.76	5 12 29.23	14.00
	Weisse 478	36	14.1	16.3	17.6	27.8	28.9	30.2	31.4	32.5	42.8	44.2	46.3	17 30.19	+ 0.06	19.77	5 17 50.02	16.15
	O. Arg. N. 5930	37	28.1	34.0	37.9	5.8	9.0	12.5	15.7	19.1	47.6	51.0	57.4	23 12.55	+ 0.47	19.77	5 23 32.79	29.87
	α Leporis	38	12.7	14.6	16.0	26.0	27.1	28.4	29.5	30.7	40.7	42.0	44.2	26 28.35	— 0.07	19.77	5 26 48.05	11.84
	O. Arg. N. 6031	39	50.3	55.7	59.3	25.4	28.3	31.6	34.8	37.6	4.4	7.7	13.4	29 31.68	+ 0.44	19.78	5 29 51.90	28.68
	O. Arg. N. 6052	40	. .	. .	. .	32.8	35.4	38.7	42.1	44.9	. .	. .	. .	30 38.78	+ 0.57	19.78	5 30 59.13	28.67
	O. Arg. N. 6082	41	. .	. .	. .	36.3	39.5	45.5	30.2	37.5	40.8	44.7	48.8	33 17.91	— 1 16.30	19.78	5 32 21.39	29.83
	Lacaille 1977	42	33.7	35.9	37.4	48.5	49.8	51.1	52.5	53.8	5.2	6.6	8.8	39 51.21	— 0.12	19.79	5 40 10.88	9.87
	(* 94) W.	43	25.9	28.2	29.5	40.0	41.0	42.5	43.8	45.0	55.7	57.0	59.3	43 42.54	+ 0.08	19.79	5 44 2.41	16.65
	O. Arg. N. 6362	44	7.1	13.7	17.9	49.4	52.8	56.9	0.9	4.2	36.4	40.5	47.4	49 57.02	0.54	19.80	5 50 17.36	32.11
	O. Arg. N. 6390	45	. .	. .	. .	38.5	41.6	46.0	49.7	53.2	. .	. .	. .	51 45.80	+ 0.68	19.80	5 52 6.28	31.77
	Lacaille 2108	46	46.5	48.9	50.4	1.7	2.9	4.4	5.7	7.1	18.7	20.2	22.6	56 4.46	— 0.13	19.81	5 56 24.14	9.40
	ν Orionis	47	31.7	32.6	33.9	35.1	36.2	. .	5.1	7.6	8.9	10.2	11.6	59 51.29	— 17.33	19.81	5 59 53.77	15.28
	O. Arg. N. 6682	48	40.0	47.2	51.6	24.9	28.1	32.4	36.7	40.6	14.9	18.2	25.8	8 32.40	+ 0.57	19.82	6 8 52.79	+ 32.97
	δ Ursæ Minoris, S. P.	49	.	. .	. .	41.5	58.0	19.5	39.5	55.0	. .	. .	. .	15 18.70	— 3.64	19.83		— 79.27
	Dorpat 919, (1st *)	50	22.0	23.4	24.6	25.7	28.3	. .	28.7	31.0	32.3	33.6	34.9	21 58.45	— 0.26	+19.83	6 22 18.02	+ 12.79

17. Very faint.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 21, 3.7	+ 19.66	+ 0.066	— 0.01

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 21	Dorpat 919, (2d *)	1	43.6	45.7	46.8	. .	. .	. .	. .	. .	10.5	11.7	13.8	21 58.68	— 0.07	+19.83	6 22 18.44	+ 12.79
Y.	Dorpat 919, (3d *)	2	. .	. .	. .	56.4	57.6	58.7	59.9	1.0	. .	. .	. .	21 58.72	+ 0.02	19.83	6 22 18.57	12.79
	* — 29° 58′ . .	3	7.4	9.6	11.2	22.1	23.2	24.6	26.0	27.2	38.5	39.6	42.0	29 24.67	— 0.12	19.84	6 29 44.39	9.72
	Weisse (2) 935 . .	4	. .	. .	. .	47.1	48.4	50.6	7.3	9.9	11.3	12.6	14.2	32 2.68	28.36	19.85	6 31 54.17	16.13
	* + 23° 46′ . .	5	. .	. .	. .	. .	. .	. .	28.8	31.5	32.7	34.2	35.7	32 32.58	— 36.68	19.85	6 32 15.75	16.13
	51 Cephei	6	. .	. .	. .	26.0	45.5	13.5	37.0	58.0	. .	. .	. .	36 12.00	+ 4.48	19.85	6 36 36.33	125.99
	O. Arg. N. 7251 .	7	. .	. .	. .	11.2	16.0	21.5	27.5	32.4	. .	. .	. .	41 21.72	+ 1.00	19.86	6 41 42.58	39.10
	* — 30° 21′ . .	8	55.6	57.9	59.2	10.3	11.4	12.7	14.0	15.3	26.6	27.8	30.2	45 12.82	— 0.12	19.86	6 45 32.56	9.70
	* — 30° 15′ . .	9	22.7	25.1	26.3	37.4	38.5	39.9	41.4	42.5	53.7	55.0	57.4	46 39.99	0.12	19.86	6 46 59.73	9.71
	Lacaille 2544 . .	10	23.9	26.0	27.3	37.7	38.8	40.1	41.3	42.5	53.1	54.4	56.6	52 40.15	— 0.09	19.87	6 53 0.03	10.64
	44 Geminorum . . .	11	36.8	38.8	40.2	50.6	51.6	52.8	54.2	55.3	5.7	7.0	9.3	56 52.94	+ 0.07	19.87	6 57 12.88	15.92
	(* 132) W . . .	12	3.9	6.1	7.4	17.7	18.7	20.0	21.4	22.5	33.0	34.2	36.4	1 20.12	+ 0.06	19.88	7 1 40.06	15.86
	Σ Cat. Gen. 825, 1st *	13	58.1	59.6	0.9	2.2	4.7	. .	9.8	12.3	13.7	15.2	16.5	3 37.30	— 0.19	19.88	7 3 56.99	15.83
	Σ Cat. Gen. 825, 2d *	14	21.3	23.4	24.8	35.1	36.1	37.5	38.8	39.9	50.3	51.6	53.6	3 37.49	+ 0.06	19.88	7 3 57.43	15.83
	O. Arg. N. 7681 .	15	. .	. .	. .	34.1	39.3	45.8	51.4	57.5	. .	. .	. .	7 45.62	0.64	19.88	7 8 6.14	41.12
	Weisse (2) 327 . .	16	45.7	47.9	49.2	59.4	0.5	1.8	3.1	4.3	14.6	15.9	18.2	11 1.87	0.06	19.89	7 11 21.82	15.76
δ	Geminorum . . .	17	29.6	31.8	33.1	43.3	44.5	45.7	47.0	48.2	58.5	59.7	1.9	11 45.75	+ 0.06	19.89	7 12 5.70	15.73
	O. Arg. S. 6678 .	18	29.7	31.8	33.3	44.0	45.2	46.5	47.9	49.1	59.9	1.4	3.6	15 46.58	— 0.11	19.90	7 16 6.37	10.01
	O. Arg. S. 6748 .	19	57.2	59.6	0.9	11.8	12.9	14.4	15.7	16.8	27.9	29.1	31.6	18 14.35	0.11	19.90	7 18 34.14	9.85
	O. Arg. S. 6756 .	20	. .	. .	. .	41.2	42.4	44.9	2.2	4.9	6.4	7.7	9.3	18 57.38	29.85	19.90	7 18 47.43	9.85
	O. Arg. S. 6907 .	21	23.5	25.9	27.3	38.4	39.4	40.8	42.1	43.3	54.6	55.9	58.4	23 40.87	0.12	19.90	7 24 0.65	9.65
	O. Arg. S. 7063 .	22	50.9	53.3	54.6	5.5	6.7	8.0	9.3	10.6	21.9	23.0	25.5	29 8.12	0.11	19.91	7 29 27.92	9.84
	O. Arg. S. 7167 .	23	21.0	23.4	24.7	36.0	37.0	38.6	39.9	41.1	52.3	53.8	56.1	32 38.54	0.12	19.91	7 32 58.33	9.54
	Weisse (2) 1022 .	24	53.3	54.4	55.8	57.0	58.2	. .	28.2	30.8	32.2	33.5	35.0	35 13.84	17.96	19.92	7 35 15.80	15.47
	Weisse 1181 . .	25	43.0	45.0	46.2	. .	. .	. .	. .	. .	10.4	11.7	13.9	38 58.37	0.10	19.92	7 39 18.19	11.72
	Weisse 1182 . .	26	. .	. .	. .	56.4	57.5	58.6	59.8	1.0	. .	. .	. .	38 58.66	0.01	19.92	7 39 18.57	11.72
	* — 11° 52′ . .	27	25.4	27.5	28.7	38.4	39.4	40.6	41.8	42.9	52.8	54.0	56.0	40 40.68	0.05	19.92	7 41 0.55	11.99
	Weisse 1232 . .	28	4.2	6.4	7.5	17.5	18.4	19.7	20.8	21.9	31.6	32.9	34.9	41 19.62	0.05	19.92	7 41 39.49	11.99
	Weisse 1233 . .	29	50.2	51.2	52.5	53.7	54.8	. .	23.3	25.8	27.0	28.4	29.8	42 9.67	17.21	19.92	7 42 12.38	11.99
	Weisse (2) 1305 .	30	. .	. .	. .	11.1	12.5	14.8	31.0	33.6	35.0	36.3	37.7	46 26.50	— 27.88	19.93	7 46 18.55	15.41
	Weisse 1459 . .	31	9.4	11.5	12.6	22.4	23.5	24.7	25.9	27.0	36.8	38.0	40.2	49 24.73	+ 0.03	19.93	7 49 44.69	14.40
	O. Arg. S. 7769 . .	32	. .	49.2	50.8	1.4	2.5	3.8	5.1	6.3	17.2	18.4	20.7	53 5.54	— 1.79	19.94	7 53 23.69	+ 10.10
λ	Ursæ Minoris, S. P.	33	. .	. .	. .	58.5	53.0	54.5	59.0	50.0	. .	. .	. .	57 55.00	— 11.29	19.94		— 227.71
	Dorpat 1198, (1st *)	34	54.6	56.7	58.1	7.9	9.0	10.4	11.6	12.7	22.8	24.1	26.2	4 10.37	+ 0.05	19.95	8 4 30.37	+ 14.97
	Dorpat 1198, (2d *)	35	32.7	34.2	35.5	36.8	39.3	. .	42.4	45.0	46.2	47.6	49.0	4 10.87	— 0.19	19.95	8 4 30.63	14.97
	Lacaille 3209 . .	36	41.2	43.6	45.0	56.1	57.3	58.6	0.1	1.4	12.7	14.0	16.4	7 58.76	— 0.12	19.95	8 8 18.59	9.61
	Weisse (2) 221 . .	37	36.6	38.8	40.1	50.3	51.3	52.6	53.9	55.0	5.2	6.4	8.6	10 52.62	+ 0.06	19.96	8 11 12.64	15.13
	Weisse 389 . . .	38	22.8	24.8	26.1	36.0	36.9	38.2	39.4	40.4	50.3	51.4	53.4	15 38.15	+ 0.03	19.96	8 15 58.14	14.27
	Dorpat 1223, (1st *)	39	38.7	40.3	41.7	43.1	45.8	. .	53.4	56.0	57.4	58.9	0.4	18 19.57	— 0.18	19.96	8 18 39.35	15.78
	Dorpat 1223, (2d *)	40	2.8	4.9	6.4	17.1	18.1	19.3	20.7	22.1	33.0	34.1	36.5	18 19.54	+ 0.08	19.96	8 18 39.58	15.78
	Weisse (2) 491 . .	41	18.5	20.8	22.0	31.9	33.0	34.2	35.5	36.6	46.7	47.7	49.8	21 34.25	0.04	19.97	8 21 54.26	14.67
η	Cancri	42	20.2	22.3	23.6	33.9	34.9	36.3	37.5	38.5	49.0	50.3	52.4	24 36.26	0.06	19.97	8 24 56.29	15.03
	* + 20° 0′ . . .	43	43.0	45.0	46.5	56.3	57.4	58.7	0.0	1.2	11.4	12.7	14.8	28 58.82	0.03	19.98	8 29 18.86	14.94
	Weisse (2) 713 . .	44	. .	. .	. .	35.5	36.6	37.8	39.0	40.1	. .	. .	. .	29 37.80	0.10	19.98	8 29 57.88	14.92
	Weisse (2) 762 . .	45	47.1	49.1	50.5	. .	. .	. .	. .	. .	15.6	17.0	19.1	31 3.07	0.02	19.98	8 31 23.07	14.94
	B. A. C. 2907 . .	46	27.9	29.5	30.8	32.1	34.5	. .	. .	. .	. .	. .	. .	30 30.96	35.40	19.98	8 31 26.34	14.94
	* + 20° 8′ ± . .	47	. .	. .	. .	4.6	5.8	7.1	8.3	9.5	. .	. .	. .	31 7.06	+ 0.11	19.98	8 31 27.15	14.94
	* + 20° 8′ ± . .	48	39.6	40.9	42.3	43.5	46.1	. .	50.0	52.5	54.0	55.2	56.7	32 18.08	— 0.18	19.98	8 32 37.88	14.93
	* + 20° 8′ ± . .	49	3.4	5.5	6.8	. .	. .	. .	. .	. .	31.9	33.1	35.3	32 19.33	+ 0.02	19.98	8 32 39.33	14.93
	* + 20° 8′ ± . .	50	. .	. .	. .	20.9	22.0	23.3	24.5	25.6	. .	. .	. .	32 23.26	+ 0.11	+19.98	8 32 43.35	+ 14.93

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 21, 3.7	+ 19.66	+ 0.066	— 0.01

s.
February 21, n. = + 0.18.
Declinations of anonymous stars in Præsepe approximate.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 21	42 Cancri	1	- -	- -	- -	- -	- -	- -	12.4	15.0	16.5	17.7	19.1	33 16.14	— 35.78	+19.98	8 33 0.34	+ 14.92
Y.	Weisse (2) 841	2	- -	- -	- -	29.9	30.9	32.2	33.6	34.7	- -	- -	- -	33 32.26	+ 0.11	19.98	8 33 52.35	14.92
	* + 20° 8′ ±	3	- -	- -	- -	37.3	38.4	39.7	41.0	42.1	- -	- -	- -	33 39.70	0.11	19.98	8 33 59.79	14.92
	* + 20° 8′ ±	4	22.7	24.8	26.2	36.3	37.3	38.6	39.8	41.0	51.3	52.6	54.7	34 38.66	+ 0.06	19.98	8 34 58.70	14.91
	* + 20° 8′ ±	5	3.9	5.4	6.7	7.8	10.4	- -	14.4	16.9	18.2	19.6	21.1	34 42.44	— 0.18	19.98	8 35 2.24	14.91
	Lalande 18604	6	37.9	39.3	40.6	41.8	44.3	- -	46.1	48.7	49.9	51.4	52.7	20 15.27	— 0.19	20.03	9 20 35.11	14.09
	Massalia	7	3.1	5.2	6.3	16.2	17.2	18.4	19.6	20.7	30.9	31.9	34.0	20 18.50	+ 0.04	20.03	9 20 38.57	- -
	Lacaille 3889	8	19.5	22.0	23.7	35.3	36.4	37.8	39.3	40.6	52.4	53.7	56.4	25 37.92	— 0.14	20.04	9 25 57.82	9.75
	Lacaille 3905	9	- -	- -	- -	- -	- -	- -	11.9	15.0	16.5	18.1	20.0	28 16.30	42.84	20.04	9 27 53.50	9.09
	* — 20° 19′	10	- -	- -	- -	- -	- -	- -	20.5	23.2	24.4	25.8	27.2	30 24.22	— 35.95	20.04	9 30 8.31	11.21
	ε Leonis	†11	37.1	39.3	40.5	50.8	52.0	53.4	54.5	55.7	6.4	7.4	9.8	37 53.35	+ 0.07	20.05	9 38 13.47	14.67
22	Sun II	12	41.2	43.1	44.6	54.2	55.2	56.3	57.6	58.7	8.4	9.5	11.6	24 56.40	— 0.04	20.36	22 25 16.72	- -
Tr.	α Andromedæ	13	- -	- -	- -	18.0	19.1	21.4	38.8	41.7	42.9	44.4	45.8	1 34.01	— 29.47	20.42	- - - -	15.33
23	α Aquilæ	14	55.7	57.6	59.1	8.4	9.4	10.7	11.8	13.1	22.7	23.7	25.9	44 10.74	+ 0.01	1.16	19 44 11.91	14.56
E.	α Cygni	15	26.7	29.4	31.3	44.7	46.1	47.8	49.5	50.9	4.5	6.2	9.1	36 47.84	0.12	1.16	20 36 49.12	10.79
	ζ Cygni	16	52.8	55.0	56.6	7.4	8.6	9.9	11.2	12.5	23.6	24.9	27.4	7 9.99	+ 0.06	1.16	21 7 11.21	13.03
	Mercury, centre	17	- -	- -	- -	3.8	5.1	7.4	23.3	25.8	26.9	28.3	29.7	29 18.79	— 27.32	1.16	21 28 52.63	- -
24	Sun I	18	- -	25.8	27.3	37.0	38.2	39.3	40.3	41.3	51.2	52.3	- -	30 39.30	0.04	1.17	22 30 40.43	- -
	Sun II	19	35.7	37.7	39.1	48.6	49.7	50.9	52.0	53.1	2.7	4.1	6.1	32 50.88	— 0.03	1.17	22 32 52.02	- -
	Polaris	20	- -	- -	- -	48.0	27.0	19.0	5.0	50.0	- -	- -	- -	9 17.80	+ 6.77	1.17	- - - -	110.23
	Venus I	21	49.4	51.3	52.8	2.5	3.5	4.7	5.9	6.9	16.7	17.9	20.0	21 4.69	0.01	1.17	1 21 5.87	0.82
Y.	β Arietis	22	54.6	56.7	58.1	18.3	19.2	- -	11.6	12.9	23.2	24.5	26.2	47 10.56	0.03	1.18	- - - -	15.96
	α Arietis	23	17.2	19.5	20.9	31.1	32.1	33.4	34.8	35.9	46.3	47.6	49.9	59 33.52	+ 0.04	1.18	- - - -	16.21
E.	δ Ursæ Minoris, S. P.	†24	- -	- -	- -	- -	- -	- -	0.0	39.5	59.0	20.0	43.0	24 56.30	— 9 20.92	1.18	- - - -	- -
	γ Geminorum	25	40.1	42.0	43.2	53.1	54.3	55.5	56.7	57.8	8.0	9.1	11.3	29 55.55	+ 0.01	1.18	6 29 56.74	15.37
	51 Cephei	†26	- -	- -	- -	44.0	- -	32.0	58.0	18.0	- -	- -	- -	36 38.00	— 4.09	1.18	6 36 35.09	127.22
	α Canis Majoris	†27	10.0	11.2	12.5	13.7	14.8	- -	44.0	46.4	47.8	49.2	50.5	39 30.01	17.55	1.18	6 39 13.64	11.45
26	α Aquilæ	28	9.5	10.6	11.7	12.9	14.0	- -	42.4	44.8	45.9	47.2	48.6	44 28.76	— 16.96	0.10	19 44 11.90	14.49
	α Cygni	29	27.7	30.7	32.4	45.7	47.1	48.8	50.5	51.8	5.7	7.3	10.0	36 48.88	+ 0.24	0.11	20 36 49.23	10.73
	Mercury, centre	30	53.6	55.9	57.0	7.0	8.1	9.3	10.3	11.4	21.6	22.7	25.1	48 9.27	— 0.08	0.11	21 48 9.30	- -
27	Sun I	31	44.1	46.1	47.7	56.9	58.1	59.4	0.5	1.6	11.5	12.5	14.8	41 59.38	— 0.05	0.12	22 41 59.45	- -
	Sun II	32	55.4	57.4	58.8	8.3	9.2	10.4	11.5	12.7	- -	- -	- -	44 5.46	+ 5.60	0.12	22 44 10.58	- -
	Polaris	33	- -	- -	- -	24.0	5.0	28.0	43.0	- -	- -	10.0	3.0	25 18.83	—15 53.91	0.13	- - - -	- -
	Venus I	34	42.6	44.6	45.9	55.6	56.6	57.8	59.1	0.2	10.0	11.3	13.3	31 57.91	+ 0.04	0.13	1 31 58.08	0.85
	α Arietis	35	18.3	20.5	21.8	32.2	33.2	34.5	35.9	37.0	47.4	48.8	50.8	59 34.58	0.09	0.13	1 59 34.80	16.25
	Uranus, centre	36	42.4	44.7	45.9	56.3	57.4	58.7	0.0	1.1	11.6	12.9	15.2	39 58.75	0.10	0.15	5 39 59.00	- -
	O. Arg. N. 6362	37	26.5	33.0	37.0	8.7	11.6	15.6	19.7	23.5	55.8	59.7	6.2	50 16.12	0.46	0.15	5 50 16.73	32.49
	(* 116) W.	†38	- -	42.2	45.7	19.6	23.0	27.5	31.7	35.1	8.9	13.2	- -	58 27.43	0.53	0.15	5 58 28.11	33.59
	71 Orionis	39	40.1	42.4	43.6	53.4	54.5	55.9	57.3	58.4	8.4	9.8	12.2	6 56.00	0.08	0.15	6 6 56.23	15.85
	μ Geminorum	40	33.2	35.3	36.5	46.8	47.9	49.3	50.5	51.6	2.1	3.4	5.6	14 49.29	+ 0.09	0.15	6 14 49.53	16.23
	Dorpat 919, (1st *)	41	41.6	42.9	44.3	45.5	47.8	- -	48.2	50.7	51.9	53.1	54.6	22 18.06	— 0.27	0.15	6 22 17.94	12.88
	Dorpat 919, (2d *)	42	3.2	5.0	6.5	- -	- -	- -	- -	- -	30.0	31.1	33.2	22 18.17	— 0.08	0.15	6 22 18.24	12.88
	Dorpat 919, (3d *)	43	- -	- -	- -	16.1	17.2	18.3	19.5	20.7	- -	- -	- -	22 18.36	+ 0.01	0.15	6 22 18.52	12.88
	γ Geminorum	44	40.8	43.0	44.3	54.0	55.0	56.4	57.7	58.7	8.8	10.0	12.1	29 56.44	+ 0.05	0.15	6 29 56.64	15.41
	Weisse 935	45	- -	- -	- -	- -	- -	- -	26.8	29.4	30.8	32.3	33.7	32 30.60	— 36.66	0.15	6 31 54.09	16.27
28	* — 29° 57′	46	- -	- -	- -	40.5	41.9	44.2	1.9	4.8	6.1	7.5	9.0	50 56.99	— 30.18	0.05	5 50 26.86	10.20
Y.	ν Orionis	47	38.1	40.0	41.4	51.2	52.3	53.6	54.7	55.8	5.7	7.0	9.1	59 53.54	+ 0.06	0.04	5 59 53.64	15.40
	Lalande 11714	48	- -	- -	- -	36.7	38.2	40.5	57.3	59.8	1.3	2.7	4.3	3 52.60	— 28.84	0.04	6 3 23.80	16.73
	B. A. C. 1997	49	33.5	35.7	37.0	47.6	48.7	50.1	51.4	52.6	3.3	4.6	6.8	5 50.12	0.14	0.04	6 5 50.02	10.70
	Lacaille 2190	50	55.8	58.0	59.3	9.7	10.8	12.0	13.4	14.5	25.1	26.3	28.6	8 12.14	— 0.12	+ 0.04	6 8 12.06	+ 10.94

11. Very unsteady.
24. Cloudy.
26. Through clouds.
27. Cloudy.
38. Faint.

February 22, 19h. 40m. Shortened the pendulum of the clock 2.5 divisions.

		s.
February 22,	n. =	+ 0.18.
23–24,	19h. to 2h.	0.18.
24,	6h. to 7h.	0.07.
26–27,		+ 0.25.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Feb. 22,	0.0	+ 20.42	+ 0.040	— 0.01
24,	0.5	1.17	0.002	
27,	1.4	+ 0.13	+ 0.005	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 28 Y.	δ Ursæ Minoris	1	. .	. .	. .	4.5	22.2	43.0	3.0	20.0	. .	. .	. .	15 42.54	— 4.89	+ 0.04	. . .	— 81.30
	Dorpat 919, (1st *)	2	41.7	43.1	44.4	45.5	47.9	. .	48.4	50.8	52.0	53.3	54.7	22 18.18	0.27	0.03	6 22 17.94	+ 12.90
	Dorpat 919, (2d *)	3	3.1	5.2	6.6	. .	. .	. .	. .	. .	30.2	31.4	33.5	22 18.33	— 0.08	0.03	6 22 18.28	12.90
	Dorpat 919, (3d *)	4	. .	. .	. .	16.1	17.3	18.5	19.7	20.6	. .	. .	. .	22 18.44	+ 0.01	0.03	6 22 18.48	12.90
	O. Arg. S. 5289	5	58.3	0.6	1.9	12.5	13.6	14.9	16.2	17.4	28.2	29.5	31.8	28 14.99	— 0.14	0.03	6 28 14.88	10.51
	Weisse 935	6	37.7	39.9	41.2	51.5	52.6	53.9	55.2	56.4	7.0	8.2	10.5	31 54.01	+ 0.10	0.03	6 31 54.14	16.29
	Weisse (2) 943	7	. .	. .	. .	28.3	29.7	31.9	48.5	51.1	52.5	53.9	55.3	32 43.90	— 28.32	0.03	6 32 15.61	16.25
	Weisse (2) 1172	8	23.6	25.8	27.1	37.5	38.6	40.0	41.3	42.4	52.9	54.2	56.4	38 39.98	+ 0.10	0.03	6 38 40.11	16.25
	* — 28° 34′	9	25.1	27.2	28.7	. .	. .	. .	. .	. .	55.4	56.9	59.1	45 42.07	— 0.19	0.02	6 45 41.90	10.10
	γ Canis Majoris	10	25.4	27.6	28.8	38.7	39.6	40.9	42.1	43.2	53.2	54.3	56.5	57 40.94	— 0.08	0.01	6 57 40.87	11.80
	(* 132) W.	11	23.7	25.8	27.2	37.4	38.5	39.8	41.0	42.2	52.6	53.9	56.1	1 39.84	+ 0.09	+ 0.01	7 1 39.94	15.90
	Lacaille 2852	12	3.9	6.2	7.7	19.1	20.3	21.6	23.0	24.3	35.9	37.3	39.6	28 21.72	— 0.18	0.00	7 28 21.54	9.42
	Lacaille 2859	13	52.0	54.5	55.9	7.3	8.4	9.8	11.3	12.6	24.2	25.4	27.8	29 9.93	— 0.18	0.00	7 29 9.75	9.41
	Weisse 915	14	29.1	31.3	32.7	42.8	43.8	45.1	46.5	47.5	57.9	59.0	1.3	31 45.18	+ 0.09	0.00	7 31 45.27	15.54
	* + 21° 12′	15	. .	. .	. .	. .	. .	. .	51.8	54.3	55.7	57.0	58.4	34 55.44	— 35.99	0.00	7 34 19.45	15.55
	Lalande 15073	16	55.5	57.6	58.9	9.2	10.2	11.5	12.8	13.9	24.3	25.6	27.6	38 11.55	+ 0.09	— 0.01	7 38 11.63	15.55
	Weisse 1143	17	44.3	46.5	47.9	58.0	59.1	0.3	1.6	2.8	13.2	14.4	16.5	40 0.42	0.09	0.01	7 40 0.51	15.52
	B. A. C. 2606	18	20.0	22.7	24.6	38.7	40.1	42.0	43.9	45.4	59.7	1.5	4.6	44 42.11	+ 0.26	0.01	7 44 42.36	19.20
	Weisse 1305	19	. .	. .	. .	31.0	32.3	34.5	50.7	53.4	54.7	56.1	57.6	46 46.29	— 27.85	0.01	7 46 18.43	15.48
	(* 133) W.	20	. .	. .	. .	28.5	29.5	30.8	31.9	33.0	42.9	44.1	46.2	49 35.86	5.03	0.01	7 49 30.82	14.48
	Weisse 1459	21	. .	. .	. .	. .	. .	. .	15.5	18.0	19.1	20.6	21.8	50 19.00	— 34.34	0.01	7 49 44.65	14.53
	Weisse 1624	22	40.6	42.6	43.9	53.6	54.6	55.8	57.0	58.1	8.0	9.2	11.3	55 55.88	+ 0.09	0.02	7 55 55.95	14.41
	λ Ursæ Minoris, S. P.	23	. .	. .	. .	. .	25.0	26.0	27.0	22.0	. .	. .	. .	58 55.00	— 43.97	0.02	. . .	. .
	Weisse (2) 221	24	10.0	11.1	12.3	13.6	14.7	. .	44.7	47.2	48.5	49.9	51.3	11 30.33	— 17.84	0.02	8 11 12.47	15.17
	Weisse 389	25	42.6	44.7	45.9	55.7	56.7	57.8	59.0	0.2	10.0	11.2	13.4	15 57.93	+ 0.04	0.03	8 15 57.94	14.32
	Dorpat 1223, (1st *)	26	. .	. .	. .	36.7	37.8	39.1	40.5	41.6	. .	. .	. .	18 39.14	0.17	0.03	8 18 39.28	15.84
	Dorpat 1223, (2d *)	27	22.6	24.8	26.2	. .	. .	. .	. .	. .	52.7	54.0	56.4	18 39.45	+ 0.08	0.03	8 18 39.50	15.84
	Weisse (2) 491	28	. .	. .	. .	51.8	52.8	54.0	55.4	56.5	6.5	7.8	9.9	21 59.34	— 5.10	0.03	8 21 54.21	14.72
	η Cancri	29	40.1	42.3	43.6	53.8	54.8	56.2	57.4	58.6	8.8	10.1	12.2	24 56.17	+ 0.08	0.03	8 24 56.22	15.08
	B. A. C. 2886	30	. .	. .	. .	58.6	59.8	1.0	2.2	3.4	13.7	15.0	17.1	28 6.35	— 5.20	0.03	8 28 1.12	15.01
	Weisse (2) 708	31	37.6	39.7	41.0	51.1	52.2	53.4	54.6	55.8	6.1	7.1	9.5	29 53.46	+ 0.08	0.03	8 29 53.51	15.00
	Weisse (2) 756	32	41.2	42.5	44.0	45.3	47.8	. .	51.7	54.3	55.6	57.0	58.4	31 19.78	— 0.16	0.03	8 31 19.59	14.99
	Weisse (2) 762	33	7.0	9.1	10.5	. .	. .	. .	. .	. .	35.6	36.8	38.9	31 22.98	+ 0.04	0.03	8 31 22.99	14.99
	* + 20° 8′	34	. .	. .	. .	24.6	25.8	27.0	28.2	29.4	. .	. .	. .	31 27.00	+ 0.13	0.03	8 31 27.10	14.99
	38 Cancri	35	. .	. .	. .	12.0	13.2	15.4	31.5	34.1	35.4	36.8	38.2	32 27.08	— 27.66	0.03	8 31 59.39	14.99
	* + 20° 8′	36	. .	. .	. .	50.3	51.5	53.6	10.0	12.7	14.0	15.4	16.6	33 5.51	27.66	0.04	8 32 37.81	14.98
	42 Cancri	37	. .	. .	. .	. .	. .	. .	32.4	35.0	36.4	37.7	39.1	33 36.12	— 35.80	0.04	8 33 0.28	14.98
	Weisse 841	38	. .	. .	. .	49.8	50.9	52.2	53.4	54.6	. .	. .	. .	33 52.18	+ 0.13	0.04	8 33 52.27	14.98
	* + 20° 8′	39	. .	. .	. .	57.3	58.3	59.7	1.0	2.1	. .	. .	. .	33 59.68	+ 0.13	0.04	8 33 59.77	14.98
	* + 20° 8′	40	23.8	25.3	26.6	27.8	30.5	. .	34.4	36.8	38.3	39.6	41.0	35 2.41	— 0.16	0.04	8 35 2.21	14.97
	* + 20° 8′	41	42.8	44.8	46.1	56.2	57.3	58.6	59.7	0.9	11.2	12.4	14.6	31 58.60	+ 0.08	0.04	8 34 58.64	14.97
	Dorpat 1273	42	3.5	4.9	6.1	7.3	9.6	. .	10.1	12.6	13.7	15.0	16.4	39 39.92	— 0.21	0.04	8 39 39.67	13.72
	ϵ Hydræ	43	24.8	26.7	28.0	37.6	38.6	39.8	41.0	42.1	51.7	52.9	55.0	39 39.81	+ 0.02	0.04	8 39 39.82	13.72
	O. Arg. S. 9040	44	4.7	5.9	7.2	8.5	9.6	. .	40.4	42.9	44.3	45.7	47.0	44 25.62	— 18.51	0.04	8 44 7.07	10.78
	Dorpat 1295, (1st *)	45	18.7	19.9	21.2	22.4	24.8	. .	25.4	27.8	29.1	30.4	31.7	48 55.14	0.27	0.04	8 48 54.83	12.44
	Dorpat 1295, (2d *)	46	39.9	41.8	43.0	52.7	53.7	54.9	56.0	57.1	6.9	8.0	10.1	48 54.92	0.04	0.04	8 48 54.84	12.44
	O. Arg. S. 9252	47	5.9	8.2	9.7	20.2	21.3	22.6	24.0	25.1	36.0	37.3	39.5	55 22.71	— 0.13	0.05	8 55 22.53	10.60
	κ Cancri	48	12.9	15.0	16.3	26.0	27.1	28.2	29.5	30.5	40.3	41.5	43.6	0 28.26	+ 0.04	0.05	9 0 28.25	13.96
	Carrington 1338	49	. .	. .	. .	52.2	59.1	8.0	15.9	24.1	. .	. .	. .	5 7.86	+ 2.01	0.05	9 5 9.82	38.34
	Lacaille 3750	50	43.0	45.4	46.8	58.2	59.3	0.7	2.1	3.5	14.9	16.3	18.7	10 0.81	— 0.17	— 0.06	9 10 0.58	+ 9.91

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 28, 8.7	— 0.04	— 0.031	— 0.01

February 28, n. = + 0.25 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 28	Lacaille 3765	1	..	..	..	..	..	..	21.3	24.3	26.1	27.7	29.3	12 25.74	— 43.40	— 0.06	9 11 42.28	+ 9.08
Y.	Massalia	2	2.4	4.4	5.7	15.5	16.5	17.8	19.0	20.1	30.1	31.3	33.4	15 17.84	0.08	0.06	9 15 17.70	.
	* — 14° 54′	3	22.8	25.0	26.3	36.0	37.0	38.3	39.5	40.6	50.6	51.8	53.9	16 38.35	0.08	0.06	9 16 38.21	11.82
	* — 14° 54′	4	..	..	..	1.7	2.8	4.1	5.3	6.3	16.4	17.6	19.7	17 9.21	5.21	0.06	9 17 3.94	11.82
	* — 14° 54′	5	44.3	46.4	47.6	57.4	58.5	59.7	0.9	2.0	12.0	13.2	15.2	17 59.75	0.08	0.06	9 17 59.61	11.82
	Lacaille 3874	6	46.2	48.6	50.1	1.5	2.6	4.0	5.4	6.7	18.2	19.5	21.8	24 4.05	0.17	0.06	9 24 3.82	10.04
	Lacaille 3903	7	25.3	27.9	29.4	41.5	42.9	44.5	45.9	47.0	59.7	1.1	3.8	27 44.45	0.21	0.06	9 27 44.18	9.34
	* — 35° 25′	8	19.8	22.2	23.8	35.3	36.5	38.0	39.6	40.8	52.7	53.9	54.8	30 38.09	0.19	0.07	9 30 37.83	9.79
	Lacaille 3946	9	35.3	37.9	39.4	51.1	52.3	53.7	55.2	56.5	8.3	9.7	12.3	31 53.79	0.19	0.07	9 31 53.53	9.80
	Lacaille 3975	10	23.1	25.4	27.0	38.2	39.4	40.8	42.2	43.5	55.0	56.3	58.8	35 40.88	0.17	0.07	9 35 40.64	10.17
	Lacaille 3984	11	49.4	51.9	53.4	4.6	5.7	7.2	8.6	9.7	21.4	22.6	25.1	37 7.24	0.17	0.07	9 37 7.00	10.19
	O. Arg. S. 10130	12	21.5	23.8	25.3	36.2	37.4	38.7	40.0	41.2	52.3	53.6	56.0	42 38.73	0.15	0.07	9 42 38.51	10.59
	μ Leonis	13	..	..	..	4.7	5.7	7.2	8.5	9.7	20.6	21.9	24.1	45 12.80	5.43	0.07	9 45 7.30	14.67
	Lacaille 4095	14	49.5	51.9	53.4	5.0	6.3	7.8	9.3	10.5	22.2	23.8	26.4	53 7.83	0.19	0.08	9 53 7.56	10.11
	Lacaille 4107	15	..	..	..	34.4	35.8	37.4	38.9	40.3	52.7	54.2	56.9	55 43.82	6.57	0.08	9 55 37.17	9.72
	Lacaille 4135	16	26.5	29.2	30.7	43.0	44.3	45.9	47.4	48.8	1.2	2.7	5.3	58 45.91	0.22	0.08	9 58 45.61	9.71
	* — 36° 6′	17	46.0	48.5	50.0	1.7	2.9	4.3	5.7	7.2	19.2	20.5	23.2	4 4.47	0.20	0.08	10 4 4.19	10.18
	* — 29° 43′	18	6.2	8.7	10.0	21.0	22.2	23.6	24.9	26.1	37.3	38.6	41.0	7 23.60	— 0.15	0.08	10 7 23.37	10.87
	γ Leonis, (1st *)	19	18.0	20.2	21.4	31.6	32.6	34.0	35.2	36.3	46.6	47.9	50.1	12 33.99	+ 0.08	0.09	10 12 33.98	14.18
	γ Leonis, (2d *)	20	55.7	57.3	58.5	59.9	2.3	..	6.5	9.0	10.4	11.7	13.2	12 34.45	— 0.16	0.09	10 12 34.20	14.08
	* — 27° 33′	21	7.7	10.1	11.4	22.1	23.3	24.6	25.9	27.0	38.2	39.4	41.7	15 24.67	0.14	0.09	10 15 24.44	11.15
	O. Arg. S. 10594	22	..	..	..	38.2	39.4	40.7	42.1	43.3	54.3	55.7	58.0	17 46.46	5.85	0.09	10 17 40.52	11.01
	Lacaille 4298	23	44.2	46.5	48.0	59.0	0.1	1.6	2.9	4.0	15.3	16.7	19.0	21 1.57	— 0.16	0.09	10 21 1.32	10.99
	ρ Leonis	24	29.3	31.3	32.5	42.2	43.2	44.5	45.7	46.7	56.6	57.7	59.7	25 44.49	+ 0.03	0.09	10 25 44.43	13.45
Mar. 4	Polaris	25	6.5	28.0	15.0	48.5	31.0	19.5	8.5	50.0	16.5	10.0	29.0	9 18.41	7.74	1.30	1 9 24.85	114.45
	β Arietis	26	56.9	59.1	0.5	10.6	11.8	13.0	14.4	15.5	25.3	26.8	28.9	47 12.98	0.06	1.32	1 47 11.72	16.05
	Venus I	27	26.8	28.8	30.0	40.0	41.1	42.4	43.6	44.7	54.5	55.8	57.8	49 42.32	0.03	1.33	1 49 41.02	0.90
	α Arietis	28	19.5	21.7	23.1	33.5	34.6	35.9	37.3	38.5	48.5	50.0	52.1	59 35.88	+ 0.06	1.33	1 59 34.61	16.32
	γ Ceti	29	5.2	7.3	8.4	18.1	19.1	20.4	21.6	22.6	32.0	33.3	35.3	36 20.30	— 0.01	1.34	2 36 18.95	15.01
	α Ceti	30	0.3	2.4	3.6	13.3	14.2	15.5	16.7	17.7	27.1	28.4	30.4	55 15.42	— 0.01	1.35	2 55 14.06	15.05
Tr.	* — 8° 22′	31	28.7	30.0	31.4	32.6	35.1	..	35.7	38.0	39.2	40.5	41.8	8 5.30	+ 0.18	1.46	5 8 4.02	13.24
	β Orionis	32	50.4	52.5	53.8	3.5	4.6	5.8	7.0	8.1	17.4	18.7	20.8	8 5.69	— 0.05	1.46	5 8 4.18	13.24
	Moon I	33	5.6	7.7	9.2	19.6	20.7	22.0	23.2	24.4	34.4	35.8	38.0	17 21.87	+ 0.05	1.46	5 17 20.46	. .
	119 Tauri	34	5.1	7.1	8.3	18.6	19.8	21.1	22.3	23.4	33.3	34.5	36.7	24 20.93	0.05	1.47	5 24 19.51	15.98
	120 Tauri	35	24.1	26.2	27.4	37.7	38.8	39.9	41.2	42.2	52.2	53.5	55.9	25 39.92	0.05	1.47	5 25 38.50	15.97
	ζ Tauri	36	21.6	23.7	24.9	35.3	36.5	37.8	39.0	40.2	50.2	51.5	53.7	29 37.67	0.06	1.47	5 29 36.26	16.26
	Uranus	37	42.7	45.0	46.2	56.6	57.8	59.1	0.3	1.4	11.8	13.3	15.5	39 59.06	0.07	1.47	5 39 57.66	. .
	Rumker 1576	38	54.4	56.5	57.8	8.4	9.5	10.8	12.1	13.2	23.4	24.9	27.1	41 10.74	0.07	1.47	5 41 9.34	16.53
	Weisse (2) 1980	39	51.9	54.2	55.4	6.2	7.5	8.9	10.1	11.1	21.8	23.1	25.3	0 8.68	0.08	1.48	6 0 7.28	16.77
	Lalande 11684	40	16.8	18.9	20.3	30.1	32.4	33.5	34.8	36.1	46.4	47.9	50.4	2 33.42	0.08	1.48	6 2 32.02	16.75
	Lalande 11714	41	8.6	10.8	12.1	22.7	24.0	25.1	26.5	27.7	38.4	39.6	41.9	3 25.22	+ 0.08	1.48	6 3 23.82	+ 16.75
	δ Ursæ Minoris, S. P.	42	.	..	..	4.0	22.0	42.0	2.0	20.0	..	..	..	15 42.00	— 2.42	1.48	18 15 38.10	— 82.64
	* + 15° 5′	43	39.8	40.8	42.0	43.4	44.5	..	13.1	15.4	16.6	18.1	19.2	12 59.29	17.18	1.53	9 12 40.58	. .
	α Hydræ	44	46.0	47.9	49.3	58.9	59.9	1.1	2.4	3.4	13.0	14.3	16.2	21 1.13	0.05	1.54	9 20 59.54	+ 12.41
	O. Arg. S. 9914	45	35.3	37.5	38.8	..	..	..	..	..	4.5	6.0	8.1	30 51.70	0.07	1.54	9 30 50.09	11.08
	O. Arg. S. 9956	46	23.4	25.8	27.0	37.5	38.6	39.9	41.2	42.3	52.7	54.0	56.3	32 39.88	0.11	1.54	9 32 38.23	11.09
	* — 23° 41′	47	58.8	1.0	2.4	12.9	14.2	15.3	16.7	17.9	28.2	29.5	31.3	36 15.29	— 0.11	1.54	9 36 13.64	11.12
	l Leonis	48	58.2	0.2	1.5	11.3	12.4	13.5	14.7	15.9	25.4	26.8	28.8	42 13.52	+ 0.02	1.57	10 42 11.97	13.46
	Weisse (2) 963	49	59.7	1.8	3.2	13.7	14.9	16.0	17.3	18.4	28.9	30.2	32.4	48 16.04	0.07	1.57	10 48 14.54	13.99
	Lalande 21014	50	51.1	53.2	54.6	5.0	6.4	7.6	8.7	9.9	20.4	21.8	23.7	49 7.49	+ 0.07	— 1.57	10 49 5.99	+ 13.87

February 28, 21h. Image west 0.07. Clamp east.
Image west 0.22. Clamp west.

March 4. By P. and P. S. P. n. = + 0.21.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s
Mar. 4,	2.1	— 1.33	— 0.028	— 0.02
	10.4	— 1.56	— 0.019	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1865. Mar. 4 Tr.	* + 11° 0′	1	59.8	1.8	3.0	12.8	13.8	15.0	16.2	17.3	26.9	28.2	30.1	59 14.99	+ 0.02	— 1.57	10 59 13.44	+ 13.33
	Weisse 1075	2	58.8	0.7	2.0	11.8	13.0	14.2	15.4	16.3	26.0	27.2	29.2	0 14.06	0.02	1.57	11 0 12.51	13.33
	Weisse 1087	3	34.6	36.5	37.6	47.5	48.7	49.9	51.2	52.2	1.7	2.9	5.0	0 49.80	0.02	1.57	11 0 48.25	13.32
	O. Arg. N. 11590	4	20.5	26.3	29.9	58.6	1.1	4.5	8.5	11.2	38.5	42.0	47.8	8 4.37	0.52	1.57	11 8 3.32	15.69
	* + 9° 56′	5	31.2	33.7	35.2	44.7	45.8	46.9	48.4	. .	58.8	59.8	2.0	13 46.65	0.25	1.58	11 14 45.32	13.24
	Rumker 3539	6	39.3	41.3	42.6	52.5	53.5	54.6	56.0	57.1	6.4	7.9	9.7	14 54.63	0.02	1.58	11 14 53.07	13.24
	Weisse 349	7	28.2	29.5	30.6	31.9	34.4	. .	34.4	36.8	38.1	39.3	40.4	21 4.36	+ 0.22	1.58	11 21 3.00	13.06
	τ Leonis	8	48.7	50.5	51.8	1.5	2.7	3.9	5.0	6.0	15.4	16.8	18.6	21 3.72	— 0.01	1.58	11 21 2.13	13.05
	Weisse 429	9	30.5	32.4	33.7	43.4	44.5	45.7	46.9	48.0	57.3	58.6	0.7	25 45.61	0.01	1.58	11 25 44.02	13.02
	* + 2° 7′	10	25.1	27.1	28.3	37.8	38.9	40.1	41.2	42.2	51.7	53.0	54.9	26 40.03	0.01	1.58	11 26 38.44	13.02
	υ Leonis	11	51.2	53.2	54.4	4.1	5.2	6.4	7.6	8.6	17.9	19.3	21.2	30 6.28	— 0.02	1.58	11 30 4.68	12.96
	B. A. C. 3962	12	17.6	19.7	21.0	30.5	31.6	32.8	34.2	35.3	44.6	45.7	47.8	33 32.80	+ 0.01	1.58	11 33 31.23	13.01
	Weisse 592	13	21.6	23.6	24.7	34.5	35.5	36.6	37.9	38.8	48.5	49.8	51.5	34 36.64	+ 0.01	1.58	11 34 35.07	13.01
	B. A. C. 4025	14	45.2	47.2	48.2	57.9	59.0	0.2	1.4	2.5	12.0	13.2	15.2	48 0.18	— 0.02	1.59	11 47 58.57	12.99
	Vesta	15	40.2	42.2	43.5	53.3	54.4	55.6	56.9	58.0	7.5	8.9	10.8	52 55.57	+ 0.03	1.59	11 52 54.01	. .
	Weisse 926	16	7.3	9.4	10.6	20.5	21.5	22.7	24.0	25.1	34.7	36.1	38.1	54 22.73	0.03	1.59	11 54 21.17	13.12
	Weisse 980	17	27.9	29.2	30.4	31.6	34.2	. .	. .	. .	. .	. .	. .	57 30.66	34.03	1.59	11 58 3.10	13.09
	o Virginis	18	8.6	10.5	11.8	21.6	22.7	23.8	25.0	26.1	35.8	36.9	39.1	58 23.81	+ 0.02	1.59	11 58 22.24	13.00
	θ Virginis	19	46.5	48.5	49.8	59.4	0.6	1.6	3.0	4.0	13.3	14.6	16.8	3 1.65	— 0.04	1.61	13 3 0.00	13.22
	Polaris, S. P.	20	. .	. .	. .	0.0	40.0	34.0	22.0	3.0	. .	. .	.	9 31.80	— 5.86	1.61	13 9 24.33	114.66
5	η Geminorum	21	31.1	33.4	34.8	45.1	46.3	47.5	48.8	50.0	0.1	1.5	3.8	6 47.49	+ 0.04	1.97	6 6 45.56	16.36
	Moon I	22	0.1	1.2	2.4	3.9	5.0	. .	34.9	37.1	38.6	40.0	41.4	14 20.46	17.93	1.97	6 14 0.56	. .
	Lalande 12614	23	52.2	54.2	55.4	5.6	6.7	7.9	9.1	10.2	20.0	21.4	23.3	28 7.82	0.04	1.98	6 28 5.88	15.52
	γ Geminorum	24	42.9	45.0	46.2	56.2	57.4	58.6	59.8	1.1	10.7	12.1	14.3	29 58.57	+ 0.04	1.98	6 29 56.63	15.52
	51 Cephei	25	. .	. .	. .	. .	. .	. .	53.0	42.0	7.0	32.0	1.0	48 3.00	—11 28.08	1.99	6 36 32.93	130.80
	ξ Geminorum	26	31.2	33.2	34.5	44.5	45.6	46.7	47.9	48.8	58.6	59.9	1.8	37 46.61	+ 0.01	1.98	6 37 44.64	15.02
	* + 13° 4′	27	41.1	43.3	44.7	54.2	55.4	56.6	57.8	58.6	8.7	9.9	11.8	38 56.55	+ 0.01	1.98	6 38 54.58	15.03
	Weisse 625	28	48.7	50.7	51.8	1.7	2.9	4.1	5.3	6.2	16.0	17.1	19.0	21 3.95	— 0.06	2.00	7 21 1.89	12.27
	Weisse 641	29	. .	. .	. .	32.4	33.6	34.8	36.1	37.1	46.6	48.0	50.0	21 39.83	— 5.14	2.00	7 21 32.69	12.27
	a^1 Geminorum	30	19.5	21.2	22.8	24.4	27.1	. .	38.0	40.5	42.0	43.7	45.2	26 2.44	+ 0.35	2.01	7 26 0.78	17.00
	a^2 Geminorum	31	45.5	47.5	49.1	0.5	1.8	3.2	4.7	5.9	17.0	18.5	20.7	26 3.13	+ 0.08	2.01	7 26 1.20	16.93
	α Canis Minoris	32	3.1	4.8	6.1	15.6	16.8	18.0	19.3	20.3	29.8	31.2	33.2	32 18.02	— 0.01	2.01	7 32 16.00	13.74
	B. A. C. 2526	33	45.6	47.6	48.8	58.6	59.7	0.7	2.0	3.0	12.4	13.8	15.9	33 0.74	0.01	2.01	7 32 58.72	13.98
	* + 5° 36′	34	30.6	32.8	34.2	43.7	45.0	46.2	47.3	48.4	57.6	58.8	1.0	33 45.96	— 0.01	2.01	7 33 43.94	13.98
	β Geminorum	35	50.2	52.6	53.9	4.8	6.0	7.3	8.6	9.8	20.5	22.0	24.2	37 7.26	+ 0.07	2.01	7 37 5.32	16.20
E.	α Cygni	36	30.4	32.9	34.8	48.4	49.9	51.5	53.2	54.8	8.2	10.0	12.6	36 51.52	+ 0.14	2.22		. .
	Mercury, centre	†37	55.9	57.9	59.3	8.8	10.1	11.1	12.3	13.3	23.0	24.9	26.3	34 11.17	— 0.06	2.27	22 34 8.84	. .
6	Sun I	†38	53.2	55.7	56.8	6.2	7.4	8.8	9.9	10.9	20.6	21.8	23.6	8 8.63	0.07	2.29	23 8 6.27	. .
	Sun II	†39	3.7	5.4	6.6	16.5	17.7	18.7	19.8	21.0	30.4	31.5	33.6	10 18.63	— 0.07	2.29	23 10 16.27	. .
	Polaris	40	0.0	28.0	14.0	43.0	30.0	20.0	7.0	50.0	13.0	5.0	28.0	9 16.18	+ 5.91	2.34		. .
	Venus I	41	23.0	25.2	26.4	36.5	37.5	38.7	40.0	41.0	50.7	52.0	54.0	56 38.64	0.02	2.36	1 56 36.30	0.93
	α Arietis	42	20.6	22.9	24.1	34.7	35.8	37.0	38.3	39.5	49.8	51.1	53.1	59 36.99	+ 0.04	2.36	1 59 34.67	16.34
	γ Ceti	43	6.4	8.5	9.6	19.3	20.4	21.5	22.7	23.7	33.2	34.4	36.5	37 21.47	— 0.02	. .		15.04
	α Ceti	44	1.4	3.5	4.7	14.3	15.4	16.6	17.8	18.8	28.3	29.6	31.6	55 16.55	+ 0.01	. .		15.05
	ε Canis Majoris	45	6.2	8.6	10.1	21.1	22.3	23.5	24.9	26.0	36.7	38.3	40.5	53 23.47	— 0.12	2.49	6 53 20.86	10.15
	O. Arg. S. 6004	46	. .	. .	. .	48.3	49.4	50.9	52.2	53.4	. .	. .	. .	53 50.84	— 0.17	2.49	6 53 48.18	10.16
	ζ Geminorum	47	54.4	56.6	57.8	8.1	9.3	10.5	11.8	13.0	23.1	24.4	26.5	56 10.50	+ 0.04	2.49	6 56 8.05	15.86
	(* 132) W.	48	26.1	28.3	29.5	40.0	41.2	42.4	43.7	44.8	55.0	56.4	58.5	1 42.35	0.04	2.49	7 1 39.90	16.04
	O. Arg. N. 7623	49	. .	. .	. .	37.0	42.6	48.6	54.7	0.0	. .	. .	. .	4 48.58	* 0.48	2.49	7 4 46.57	40.78
	Moon I	50	27.2	29.4	30.6	41.0	42.2	43.3	44.5	45.7	55.8	57.0	59.1	8 43.25	+ 0.03	2.49	7 8 40.79	. .
	* — 31° 1′	51	9.1	11.7	13.1	24.2	25.3	26.7	28.0	29.3	40.2	41.7	44.2	18 26.68	— 0.13	— 2.50	7 18 24.05	+ 9.77

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 5, 7.2	— 2.00	— 0.026	— 0.024

37. Faint.
38-39. Very unsteady.

s.
March 5, n. = + 0.17.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 6 E.	6	Canis Minoris	1	5.9	8.0	9.3	19.0	20.1	21.4	22.6	23.8	33.3	34.6	36.7	22 21.34	+ 0.01	— 2.50	7 22 18.85	+ 14.75
		O. Arg. S. 6948	2	43.4	45.0	46.3	47.8	50.5	. .	58.3	1.1	2.4	3.8	5.4	25 24.40	+ 0.14	2.50	7 25 22.04	10.24
		O. Arg. S. 6949	3	7.8	10.3	11.6	22.4	23.7	24.9	26.3	27.4	38.2	39.6	41.7	25 24.90	— 0.12	2.50	7 25 22.28	10.24
		* — 29° 40′	4	21.8	24.3	25.4	16.7	17.9	19.1	20.6	21.8	32.8	34.0	36.5	30 19.17	— 0.13	2.50	7 30 16.54	9.96
		* — 29° 44′	5	48.0	49.6	50.8	52.3	54.9	. .	4.2	6.9	8.2	9.7	11.3	30 29.59	+ 0.13	2.50	7 30 27.22	9.96
		Weisse 1624	6	43.3	45.0	46.3	56.2	57.2	58.4	59.5	0.6	10.3	11.6	13.7	55 58.37	+ 0.01	2.51	7 55 55.87	14.48
	ρ	Argus	7	36.1	38.2	39.4	50.0	51.2	52.5	53.7	54.8	5.2	6.6	8.6	1 52.39	— 0.10	2.52	8 1 49.77	10.72
		* — 28° 10′	8	43.1	45.4	46.7	57.7	58.9	0.4	1.9	. .	13.3	14.8	17.1	22 59.93	+ 0.13	2.53	8 22 57.53	10.26
		* — 28° 10′	9	. .	. .	. .	31.0	32.1	33.5	34.9	36.1	. .	. .	. .	23 33.52	— 0.17	2.53	8 23 30.82	10.26
		Lacaille 3341	10	22.5	24.8	26.0	. .	. .	. .	. .	. .	52.8	54.2	56.6	23 39.37	0.08	2.53	8 23 36.76	10.26
		* — 23° 40′	11	18.6	20.7	22.2	32.4	33.8	35.1	36.3	37.3	47.8	49.0	51.1	27 34.94	— 0.10	2.53	8 27 32.31	10.83
		Weisse (2) 713	12	44.3	46.5	47.8	57.9	59.1	0.3	1.5	2.6	12.8	13.9	15.9	30 0.24	+ 0.04	2.53	8 29 57.75	15.03
		* + 20° 8′	13	27.8	29.4	30.7	32.1	34.5	. .	. .	. .	. .	. .	. .	30 30.90	35.84	2.53	8 31 4.21	15.02
		Weisse (2) 785	14	31.7	33.1	34.5	35.7	38.4	. .	42.4	44.9	46.6	47.5	48.8	32 10.30	0.28	2.53	8 32 8.05	15.01
		Weisse (2) 790	15	. .	2.4	3.8	. .	. .	. .	. .	. .	28.8	30.3	. .	32 16.32	+ 0.08	2.53	8 32 13.87	15.00
		Weisse (2) 793	16	. .	. .	. .	15.4	16.4	17.8	19.0	20.0	. .	. .	. .	32 17.72	— 0.01	2.53	8 32 15.20	15.00
		Weisse (2) 807	17	. .	. .	. .	. .	. .	. .	. .	. .	59.4	0.7	2.9	33 1.00	14.04	2.53	8 32 44.43	15.00
		Weisse (2) 824	18	. .	. .	. .	14.1	15.1	16.3	17.6	18.8	. .	. .	. .	33 16.38	— 0.01	2.53	8 33 13.84	15.00
		* + 20° 8′	19	11.3	13.4	14.6	24.9	26.1	27.2	28.5	29.5	39.6	41.9	43.1	34 27.28	+ 0.04	2.53	8 34 24.79	15.00
	ε	Hydræ	20	27.1	29.2	30.3	40.1	41.2	42.4	43.6	44.6	54.0	55.4	57.3	39 42.29	0.00	2.53	8 39 39.76	13.71
		* — 37° 27′	21	19.3	22.0	23.3	35.4	36.6	38.3	39.9	41.0	53.1	54.8	56.9	43 38.24	— 0.16	2.54	8 43 35.54	9.07
		* — 29° 51′	22	55.2	58.0	59.3	10.2	11.3	12.8	14.3	15.4	26.0	27.5	29.7	46 12.70	0.13	2.54	8 46 10.03	10.15
		* — 37° 46′	23	. .	. .	. .	40.3	41.8	43.5	44.9	46.2	. .	. .	. .	49 43.34	0.22	2.54	8 49 40.58	9.07
		* — 37° 45′	24	53.1	55.4	57.0	9.3	10.5	12.1	13.5	14.8	26.8	28.3	30.8	50 11.96	0.16	2.54	8 50 9.26	9.08
		Lacaille 3621	25	44.0	46.3	47.6	58.3	59.6	0.9	2.2	3.3	13.9	15.4	17.7	54 0.84	0.12	2.54	8 53 58.18	10.52
		O. Arg. S. 9252	26	. .	. .	. .	22.8	23.9	25.2	26.5	27.6	. .	. .	. .	55 25.20	0.16	2.54	8 55 22.50	10.66
		* — 35° 6′	27	40.9	42.2	43.5	45.1	46.2	. .	19.9	22.7	24.4	25.8	27.4	57 3.81	20.45	2.54	8 56 40.82	9.53
		O. Arg. S. 9321	28	8.5	9.9	11.1	12.4	13.4	. .	43.6	46.0	47.4	48.7	50.1	59 29.11	18.23	2.54	8 59 8.34	10.95
		* + 81° 50′	29	. .	. .	. .	15.7	26.7	39.4	25.3	14.3	51.2	59.5	9.5	3 56.45	— 3 0.20	2.54	9 0 54.71	39.34
		Carrington 1338	30	25.8	38.9	48.5	. .	. .	. .	. .	. .	34.9	43.8	59.1	5 11.83	+ 1.29	2.54	9 5 10.58	38.90
		Dorpat 1343, (1st *)	31	21.1	22.3	23.8	24.8	27.1	. .	27.5	29.7	31.0	32.2	33.7	12 57.32	+ 0.22	2.55	9 12 54.99	13.51
		Dorpat 1343, (2d *)	32	42.9	45.0	46.3	56.0	57.1	58.2	59.3	0.5	9.8	11.0	13.4	12 58.14	— 0.01	2.55	9 12 55.58	13.51
		Lacaille 3802	33	48.1	50.5	51.8	2.8	4.3	5.6	6.9	8.1	18.9	20.3	22.6	17 5.44	0.13	2.55	9 17 2.76	10.37
	α	Hydræ	34	47.0	49.1	50.3	0.0	1.1	2.3	3.4	4.5	14.2	15.2	17.1	21 2.20	0.05	2.55	9 20 59.60	12.43
		Lacaille 3889	35	42.0	44.7	46.1	57.8	59.2	0.4	2.0	3.1	14.8	16.2	18.7	26 0.45	0.15	2.55	9 25 57.75	9.83
		O. Arg. S. 9888	36	. .	. .	. .	27.8	29.1	30.3	31.8	32.9	. .	. .	. .	29 30.38	— 0.14	2.56	9 29 27.68	11.42
		O. Arg. N. 11674	37	11.8	18.7	22.5	54.4	58.0	1.5	6.1	9.7	40.3	44.7	51.3	13 1.73	+ 0.46	2.60	11 12 59.59	15.54
		Weisse 284	38	. .	. .	. .	6.0	7.1	8.8	23.9	26.2	27.4	28.5	29.8	18 19.71	— 25.75	2.60	11 17 51.36	13.02
		B. A. C. 3917	39	16.9	18.8	20.1	29.5	30.7	31.8	33.0	34.1	43.5	44.8	46.8	24 31.82	— 0.01	2.61	11 24 29.20	13.05
		* + 71° 19′	40	4.9	10.7	14.4	44.5	47.7	52.6	55.2	59.5	28.9	33.0	39.4	30 52.80	+ 0.43	2.61	11 30 50.62	14.07
		Weisse 624	41	15.1	17.1	18.3	27.9	28.9	30.1	31.3	32.4	41.7	43.1	45.0	36 30.08	— 0.02	2.61	11 36 27.45	12.97
	β	Leonis	42	59.6	1.8	3.1	13.0	14.1	15.2	16.5	17.7	27.5	28.7	30.7	42 15.26	+ 0.02	2.61	11 42 12.67	12.99
	γ	Ursæ Majoris	43	22.3	25.7	27.4	44.5	45.6	47.7	49.8	51.8	7.7	10.0	13.7	46 47.84	0.20	2.62	11 46 45.42	13.30
		Vesta	44	58.9	0.9	2.1	12.2	13.3	14.5	15.6	16.6	26.4	27.6	29.8	51 14.35	0.01	2.62	11 51 11.74	. .
Y.	γ	Aquilæ	45	38.3	40.3	41.5	51.3	52.4	53.6	54.8	55.9	5.4	6.8	8.9	39 53.56	0.01	2.78	19 39 50.79	13.93
	α	Aquilæ	46	59.6	1.8	3.0	12.7	13.8	14.9	16.2	17.3	26.6	27.9	30.0	44 14.89	0.00	2.78	19 44 12.11	14.30
	β	Cephei	47	10.9	17.0	20.4	48.6	51.4	54.8	58.2	1.4	28.9	32.9	38.1	26 54.78	0.40	2.81	21 26 52.37	6.00
	ε	Pegasi	48	20.9	23.1	24.3	33.8	34.8	36.1	37.3	38.4	47.9	49.3	51.3	37 36.11	0.00	2.81	21 37 33.30	+ 14.75
		Mercury I	49	15.4	16.6	18.1	19.3	21.8	. .	. .	. .	. .	. .	. .	. . .	+ 34.33	2.83	22 40 49.74	. .
		Mercury II	50	37.6	39.7	40.9	. .	. .	. .	. .	. .	5.0	6.3	8.2	40 52.95	— 0.02	— 2.83	22 40 50.10	. .

March 6, n. = + 0.s17.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Mar. 6, 6.2	— 2.47	— 0.026	— 0.025

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 7	Sun I	1	35.8	37.8	38.9	48.6	49.7	50.9	52.0	53.1	2.5	3.9	5.8	11 50.82	— 0.04	— 2.84	23 11.47.94	. .
Y.	Sun II	2	45.6	47.6	48.8	58.5	59.6	0.8	2.0	3.1	12.5	13.8	15.7	14 0.76	— 0.04	2.84	23 13.57.88	. .
	Polaris	3	. .	. .	. .	46.0	29.0	20.0	11.5	50.5	. .	. .	. .	9 19.40	+ 4.03	2.88	. . .	+ 115.82
	β Arietis	4	58.4	0.6	1.9	12.2	13.3	14.5	15.8	16.9	26.9	28.3	30.4	47 14.47	0.04	2.88	1 47 11.63	16.09
	Venus I	5	48.9	51.0	52.2	2.2	3.4	4.6	5.7	6.8	. .	. .	. .	59 59.35	5.18	2.89	2 0 1.64	0.94
	(* 132) W.	6	26.5	28.6	30.0	40.4	41.5	. .	44.0	45.0	55.4	56.7	58.9	1 42.70	0.09	2.97	7 1 39.82	16.06
	O. Arg. N. 7623	7	. .	43.2	48.7	37.5	42.8	48.9	54.6	59.8	47.4	53.4	. .	4 48.48	+ 1.09	2.97	7 4 46.60	40.86
	O. Arg. N. 7681	8	. .	. .	. .	9.6	16.0	26.4	45.8	57.9	4.5	11.0	18.0	10 23.65	— 2 15.09	2.98	7 8 5.58	42.29
	Lacaille 2753	9	30.5	32.8	34.2	45.6	46.8	48.2	49.7	50.7	2.1	3.5	5.8	15 48.17	0.20	2.98	7 15 44.99	9.62
	* — 31° 0′	10	. .	. .	. .	28.8	30.1	31.5	32.9	34.1	45.1	46.5	48.8	17 37.23	6.00	2.98	7 17 28.25	9.79
	* — 31° 3′	11	9.5	11.9	13.4	24.6	25.8	27.2	28.5	29.7	41.0	42.4	44.6	18 27.15	— 0.19	2.98	7 18 23.98	9.79
	Lalande 14620	12	50.5	52.6	53.9	4.0	5.0	6.3	7.5	8.6	18.5	19.8	22.0	24 6.25	+ 0.05	2.98	7 24 3.32	15.30
	Lacaille 2852	13	6.7	9.1	10.5	22.0	23.2	24.7	26.1	27.4	38.7	40.1	42.3	28 24.62	— 0.21	2.98	7 28 21.43	9.47
α	Canis Minoris	14	4.0	6.0	7.1	16.9	17.9	19.1	20.3	21.4	30.8	32.2	34.2	32 19.08	0.00	2.98	7 32 16.10	13.77
	Lalande 15073	15	58.4	0.5	1.8	12.0	13.2	14.5	15.8	16.9	27.0	28.4	30.5	38 14.45	+ 0.07	2.98	7 38 11.54	15.64
	Weisse (2) 1143	16	47.1	49.4	50.6	1.0	2.1	3.4	4.6	5.7	15.8	17.3	19.4	40 3.31	0.07	2.98	7 40 0.40	+ 15.62
λ	Ursæ Minoris, S. P.	17	27.0	9.5	13.0	. .	. .	. .	. .	. .	. .	. .	. .	46 56.50	11 22.56	2.99		— 238.98
6	Cancri	18	1.4	3.8	5.0	16.0	17.3	18.6	19.9	21.1	31.7	33.2	35.4	55 18.49	0.11	2.99	7 55 15.61	+ 16.23
	Weisse 1763	19	18.3	20.5	21.7	31.7	32.8	33.9	35.2	36.4	. .	. .	. .	0 28.81	5.16	2.99	8 0 30.98	14.76
	Moon I	20	56.5	58.7	59.9	10.2	11.4	12.5	13.7	14.9	24.8	26.3	28.3	1 12.47	0.04	2.99	8 1 9.52	. .
ζ	Cancri, (1st *)	21	17.2	19.4	21.7	30.8	31.9	33.2	34.4	35.5	45.3	46.7	48.8	4 33.17	0.06	2.99	8 4 30.24	15.07
	B. A. C. 2745	22	54.9	56.3	57.7	59.1	1.6	. .	4.7	7.2	8.4	9.7	11.0	4 33.06	0.29	2.99	8 4 30.36	15.07
d^1	Cancri	23	27.0	29.2	30.5	40.6	41.8	43.1	44.4	46.5	55.4	56.7	58.8	15 43.07	0.06	2.99	8 15 40.14	15.05
29	Cancri	24	54.8	56.9	58.1	8.1	9.1	10.4	11.6	12.7	22.4	23.7	25.9	21 10.34	0.04	3.00	8 21 7.38	14.61
η	Cancri	25	42.9	45.1	46.4	56.7	57.8	59.2	0.5	1.5	11.6	13.0	15.1	24 59.07	0.07	3.00	8 24 56.14	15.15
	* + 20° 29′	26	6.4	8.6	9.8	20.1	21.3	22.5	23.8	24.9	34.9	36.3	38.4	31 22.45	0.07	3.00	8 31 19.52	15.07
39	Cancri	27	9.4	11.6	12.7	23.2	24.3	25.5	26.8	27.8	37.9	39.3	41.3	32 25.35	0.07	3.00	8 32 22.42	15.07
40	Cancri	28	51.8	53.0	54.4	55.8	58.3	. .	2.5	4.9	6.2	7.6	8.9	32 30.34	0.31	3.00	8 32 27.65	15.06
	Weisse 829	29	. .	. .	. .	30.9	32.0	33.3	34.6	35.7	. .	. .	. .	33 33.30	0.02	3.00	8 33 30.32	15.06
	Weisse 848	30	53.8	55.9	57.1	7.5	8.6	9.9	11.2	12.2	22.3	23.6	25.7	34 9.80	+ 0.07	3.00	8 34 6.87	15.04
	O. Arg. S. 9252	31	8.7	11.0	12.4	23.3	24.8	25.7	27.0	28.2	38.6	40.0	42.1	55 25.62	— 0.16	3.01	8 55 22.45	10.66
	O. Arg. S. 9310	32	32.4	34.7	36.0	46.9	48.0	49.3	50.6	51.8	2.3	3.8	5.9	58 49.25	0.16	3.01	8 58 46.08	10.64
	* — 27° 38′	33	48.5	50.8	52.2	3.1	4.2	5.5	6.8	8.0	18.8	20.0	22.3	2 5.47	0.17	3.01	9 2 2.29	10.53
	Lacaille 3718	34	22.5	24.9	26.1	37.2	38.4	39.7	41.0	42.2	52.9	54.4	56.7	6 39.64	— 0.17	3.01	9 6 36.46	10.47
	Massalia	35	2.9	5.1	6.2	16.3	17.3	18.6	19.8	20.8	30.7	31.9	34.0	11 18.51	+ 0.04	3.01	9 11 15.54	. .
	Carrington 1381	36	58.3	12.8	21.6	29.5	37.3	45.2	54.4	1.5	8.2	17.9	31.8	17 45.33	+ 1.63	3.01	9 17 43.95	37.18
	* — 36° 8′	37	44.9	47.8	48.7	0.8	2.2	3.6	5.0	6.2	17.9	19.5	22.0	26 3.46	— 0.23	3.01	9 26 0.22	9.69
	Lacaille 3903	38	. .	. .	. .	44.6	45.9	47.5	49.0	50.2	2.2	3.8	6.4	27 53.70	— 6.61	3.01	9 27 44.08	9.40
	Weisse (2) 832	39	34.7	36.9	38.1	48.2	49.3	50.5	51.7	52.8	2.6	3.9	5.9	39 50.42	+ 0.05	3.02	9 39 47.45	14.12
μ	Leonis	40	53.4	55.6	56.9	7.8	8.9	10.2	11.6	12.7	23.3	24.6	26.9	45 10.17	+ 0.10	3.02	9 45 7.25	14.69
	* — 40° 8′	41	18.0	20.7	22.1	34.9	36.0	37.6	39.3	40.6	53.0	54.6	57.1	50 37.63	— 0.26	3.02	9 50 34.35	9.50
	Lacaille 4095	42	. .	. .	. .	25.0	26.6	29.0	47.3	50.1	51.4	53.2	54.6	53 42.15	31.74	3.02	9 53 7.39	10.13
	* — 24° 38′	43	18.0	20.1	21.4	32.1	33.2	34.5	35.8	37.0	47.3	48.7	51.0	57 34.46	0.15	3.02	9 57 31.29	11.23
	O. Arg. S. 10324	44	59.1	1.3	2.6	13.2	14.3	15.7	17.0	18.1	28.5	29.9	31.9	1 15.60	0.15	3.02	10 1 12.43	11.29
	O. Arg. S. 10471	45	39.5	41.8	43.0	53.6	54.7	56.0	57.2	58.4	8.7	9.9	12.2	7 55.91	0.14	3.03	10 7 52.74	11.44
	Lacaille 4218	46	43.7	46.2	47.5	58.4	59.6	1.0	2.2	3.4	14.1	15.5	17.7	10 0.84	— 0.17	3.03	10 9 57.64	11.07
ρ	Leonis	47	32.1	34.2	35.4	45.2	46.2	47.4	48.7	49.7	59.3	0.5	2.6	25 47.39	+ 0.02	— 3.03	10 25 44.38	+ 13.44
8	Sun I	48	17.7	19.7	21.0	30.5	31.7	32.9	34.2	35.3	44.6	45.9	48.0	15 32.86	— 0.05	. .		. .
Tr.	Sun II	49	27.5	29.5	30.8	40.4	41.5	42.7	43.1	44.8	54.4	55.6	57.5	17 42.59	— 0.05	. .		. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 7, 3.9	— 2.92	— 0.017	— 0.028
8, . .	. .	. .	— 0.032

s.
March 7. Before 7h. n. = + 0.17.
After 7h. 0.26.
8, . . . + 0.18.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 9		Sun I	1	12.1	13.3	14.4	15.6	16.6	. .	44.4	46.8	48.0	49.2	. .	19 28.93	— 14.60	. .	. . .	. .
Y.		Sun II	2	22.1	23.9	24.0	25.4	26.3	. .	54.1	56.4	57.5	58.6	0.0	21 40.83	16.75	. .	. . .	. .
10	α	Arietis	3	. .	. .	. .	51.8	53.1	55.1	11.5	13.9	15.2	16.7	18.2	0 6.94	— 27.83	— 4.54	. . .	+ 16.38
E.		Venus I	†4	55.4	57.5	58.8	9.0	10.2	11.3	12.5	13.6	23.5	24.8	27.0	10 11.24	+ 0.02	4.55	2 10 6.71	0.98
	ε	Antliæ	5	29.5	32.0	33.4	45.3	46.5	47.9	49.6	50.7	2.2	3.9	6.3	23 47.94	— 0.21	4.70	9 23 43.03	9.82
		* — 36° 5′	6	14.0	15.4	16.8	18.4	19.6	. .	53.8	56.5	57.8	59.4	1.2	25 37.29	20.79	4.70	9 25 11.80	9.72
		Lacaille 3903	7	29.8	32.4	33.8	46.2	47.6	48.9	50.5	51.8	4.1	5.5	8.2	27 48.98	0.25	4.70	9 29 44.03	9.43
		* — 35° 21′	8	57.7	0.4	1.9	13.3	14.8	16.2	17.8	19.3	30.7	32.2	34.5	34 16.25	— 0.21	4.70	9 34 11.34	9.92
	ε	Leonis	9	1.5	3.8	5.0	15.8	16.8	18.0	19.4	20.6	30.9	32.1	34.4	38 18.03	+ 0.08	4.70	9 38 13.33	14.70
		Weisse 929	10	21.8	23.9	25.2	35.2	36.3	37.6	38.8	39.9	49.5	50.8	53.0	43 37.45	+ 0.03	4.71	9 43 32.77	14.01
		Rumker 2988	11	32.4	33.4	34.7	36.1	37.1	. .	5.3	8.0	9.2	10.3	11.7	46 51.82	— 17.18	4.71	9 46 29.93	13.99
		* — 38° 55′	12	49.0	50.8	52.4	54.2	56.9	. .	13.8	17.0	18.5	20.1	21.6	55 35.43	+ 0.04	4.71	9 55 30.76	9.76
		Lacaille 4107	13	23.0	25.7	26.9	39.4	40.8	42.2	43.7	45.2	57.0	58.4	0.9	55 42.11	— 0.25	4.71	9 55 37.15	9.76
		O. Arg. S. 10346	14	32.1	34.3	35.6	46.5	47.6	49.0	50.3	51.5	2.2	3.6	5.8	58 48.95	0.17	4.71	9 58 44.07	11.01
		Lacaille 4134	15	54.9	57.2	58.6	9.4	10.6	11.7	13.1	14.4	25.2	26.3	28.6	59 11.82	0.17	4.71	9 59 6.94	11.01
		* — 36° 2′	16	50.4	52.6	54.3	6.3	7.5	9.0	10.5	11.6	23.4	25.0	27.4	4 8.91	0.23	4.71	10 4 3.97	10.22
		* — 37° 25′	17	. .	. .	. .	30.7	32.0	33.4	35.0	36.4	. .	. .	. .	6 33.50	0.30	4.71	10 6 28.49	10.10
		* — 30° 27′	18	41.5	42.7	44.0	45.5	46.6	. .	18.5	21.1	22.6	24.1	25.7	9 3.23	19.46	4.72	10 8 39.05	10.84
		* + 2° 9′	19	. .	. .	. .	46.2	47.4	49.4	4.2	6.5	7.7	9.0	10.3	18 0.09	25.73	4.72	10 17 29.64	13.08
		Lacaille 4298	20	48.7	51.3	52.6	3.6	4.9	6.3	7.6	8.8	19.9	21.4	22.5	21 16.24	0.19	4.72	10 21 1.33	11.00
		* — 35° 48′	21	. .	. .	. .	46.5	48.1	49.3	50.8	52.2	. .	. .	. .	34 49.38	0.29	4.72	10 34 44.37	10.67
		* — 35° 16′	22	59.8	2.1	3.6	15.4	16.8	18.4	19.8	21.0	32.6	33.9	36.4	36 18.17	— 0.23	4.73	10 36 13.21	10.78
		O. Arg. S. 10872	23	32.0	33.5	35.2	36.5	39.1	. .	46.7	49.3	50.6	52.0	53.6	40 12.85	+ 0.08	4.73	10 40 8.20	11.46
		O. Arg. S. 10874	24	56.5	59.0	0.3	11.0	12.3	13.6	15.0	16.0	26.8	28.2	31.3	40 13.64	— 0.17	4.73	10 40 8.74	11.46
		Dorpat 1482, (1st *)	25	37.9	39.3	40.5	41.8	44.1	. .	. .	47.1	48.4	49.6	51.1	45 11.09	+ 3.62	4.73	10 45 9.98	13.27
		Dorpat 1482, (2d *)	26	0.2	2.2	3.4	13.2	14.3	15.5	16.7	17.7	27.2	28.4	30.6	45 15.40	0.01	4.73	10 45 10.68	13.27
		Weisse (2) 994	27	48.2	50.4	51.7	2.3	3.5	4.8	6.1	7.2	17.5	19.1	21.2	50 4.73	+ 0.09	4.73	10 50 0.09	13.88
		Lacaille 4565	28	43.3	45.5	46.9	57.7	58.9	0.2	1.4	2.5	13.0	14.4	16.7	56 0.05	— 0.16	4.73	10 55 55.16	11.73
	χ	Leonis	29	. .	. .	. .	22.1	23.4	25.5	40.3	42.8	44.1	45.1	46.5	58 36.22	25.94	4.73	. . .	13.10
		Weisse 553	†30	13.6	15.4	16.7	26.5	27.5	28.7	30.0	31.0	40.4	41.8	43.5	32 28.65	0.02	4.75	11 32 23.88	12.96
		Weisse 624	31	17.2	19.2	20.4	30.1	31.1	32.3	33.5	34.5	44.0	45.1	47.3	36 32.25	0.03	4.75	11 36 27.47	12.94
		Vesta	32	28.4	30.5	31.8	55.9	57.1	59.2	14.4	17.0	18.1	19.3	20.6	47 59.30	15.49	4.75	11 47 39.06	. .
11		Sun I	33	21.7	23.7	24.9	34.6	35.8	37.0	38.0	39.0	48.5	49.8	51.9	26 36.81	0.05	4.84	23 26 31.92	. .
Tr.		Sun II	34	31.3	33.3	34.5	44.3	45.5	46.5	47.7	48.9	58.0	59.5	1.4	28 46.45	— 0.05	4.84	22 28 41.56	. .
		Venus I	35	13.9	16.0	17.2	27.3	28.4	29.6	30.9	32.0	41.9	43.2	45.2	13 29.58	+ 0.04	4.92	2 13 24.70	1.00
Y.	α	Ceti	36	4.0	6.0	7.2	16.9	17.9	19.1	20.3	21.3	30.7	32.0	34.0	55 19.04	— 0.02	5.03	2 55	15.15
Tr.	δ	Ursæ Minoris, S. P.	37	. .	. .	. .	12.0	29.5	51.0	10.0	28.0	. .	. .	. .	15 50.10	— 3.01	5.11	18 15	. .
		51 Cephei	38	. .	. .	. .	45.5	9.0	32.5	0.0	20.0	. .	. .	. .	36 33.40	+ 3.72	5.12	6 36 32.00	133.20
		O. Arg. S. 5792	39	36.6	38.9	40.2	50.9	52.3	53.6	55.1	56.2	6.8	8.2	10.4	45 53.56	— 0.17	5.13	6 45 48.26	10.54
	ε	Canis Majoris	40	9.0	11.2	12.7	23.8	25.0	. .	27.7	28.9	39.6	40.9	43.1	53 26.19	— 0.17	5.14	6 53 20.88	10.25
		(* 132) W.	41	28.8	30.9	32.2	42.5	43.7	45.0	46.5	47.6	57.7	58.9	1.1	1 44.99	+ 0.07	5.14	7 1 39.92	16.13
		Σ Cat. Gen. 825	†42	45.4	47.8	49.0	59.4	0.4	1.7	3.1	4.4	14.4	15.7	17.9	4 1.75	0.07	5.14	7 3 56.68	16.10
		Weisse (2) 327	43	10.6	12.7	14.(	24.4	25.5	26.8	28.1	29.2	39.4	40.8	42.9	11 26.76	0.07	5.15	7 11 21.68	16.02
	δ	Geminorum	44	54.3	56.4	57.7	8.2	9.3	10.6	12.0	13.0	23.2	24.6	26.6	12 10.54	0.07	5.15	7 12 5.46	15.99
		* + 16° 58′	45	25.5	27.0	28.5	30.1	32.8	. .	43.9	46.6	48.0	49.7	51.2	17 8.33	0.28	5.15	7 17 3.46	15.37
		* + 16° 58′	46	59.1	1.6	3.0	14.5	15.7	17.1	18.5	19.7	30.9	31.4	34.8	17 16.94	+ 0.04	5.15	7 17 11.83	15.37
		O. Arg. S. 6948	47	. .	. .	. .	24.7	26.0	27.3	28.7	29.9	40.2	41.5	43.9	25 32.78	— 5.81	5.16	7 25 21.81	10.33
		O. Arg. S. 7101	48	29.8	32.0	33.3	44.2	45.4	46.6	47.9	49.1	59.6	1.2	3.4	30 46.59	0.17	5.16	7 30 41.26	10.42
		O. Arg. S. 7131	49	25.7	27.8	29.2	40.2	41.4	42.6	44.0	45.1	55.9	57.2	59.4	31 42.57	— 0.17	— 5.16	7 31 37.24	+ 10.42

4. Through clouds.
30. Faint.
42. Double; the first.

March 10. Before 9h. n. = + s. 0.18.
After 9h. 0.26.
11, . . . + 0.26.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Mar. 10, 7.5	— 4.66	— 0.021	— 0.032

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 11	Lalande 15073	1	0.7	2.8	4.1	14.4	15.6	16.8	18.1	19.3	29.3	30.7	32.7	38 16.77	+ 0.06	— 5.17	7 38 11.66	+ 15.70
Tr.	Weisse (2) 1143	2	49.5	51.5	52.8	3.2	4.4	5.5	6.8	7.9	18.1	19.4	21.6	40 5.52	0.06	5.17	7 40 0.41	15.68
	ϕ Geminorum	3	4.3	6.5	7.7	18.7	19.9	21.1	22.4	23.7	34.3	35.6	36.1	45 21.12	0.09	5.17	7 45 16.04	16.27
	(* 133) W.	4	20.7	22.8	23.9	33.8	34.8	35.9	37.2	38.4	48.0	49.3	51.3	49 36.01	0.02	5.18	7 49 30.85	14.62
	* + 12° 3′	5	34.1	36.2	37.3	47.2	48.4	49.5	50.7	51.9	1.4	2.6	4.8	50 49.46	0.02	5.18	7 50 44.30	14.61
	Weisse 1504	6	21.3	23.4	24.6	34.4	35.5	36.7	37.9	38.9	48.6	49.9	51.8	51 36.64	+ 0.02	5.18	7 51 31.48	+ 14.61
	λ Ursæ Minoris, S. P.	7	. .	. .	. .	. .	. .	. .	36.0	31.0	50.6	54.0	43.0	6 6.80	— 7 43.07	5.19		— 241.55
	Dorpat 1223, (1st *)	8	3.3	4.8	6.2	7.6	10.4	. .	17.9	20.5	22.0	23.3	24.8	18 44.08	+ 0.34	5.20	8 18 39.22	+ 15.96
	Dorpat 1223, (2d *)	9	27.7	29.9	31.2	42.0	43.4	44.8	46.0	47.1	57.8	59.1	1.3	18 44.57	0.09	5.20	8 18 39.46	15.96
	Weisse (2) 708	10	50.2	52.5	53.6	3.9	5.1	6.3	7.5	8.5	18.8	20.1	22.2	28 6.25	0.06	5.21	8 28 1.10	15.13
	Weisse (2) 756	11	42.5	44.8	46.0	56.2	57.4	58.6	59.8	0.9	10.9	12.3	14.5	29 58.54	0.06	5.21	8 29 53.39	15.11
	Weisse (2) 762	12	12.0	14.1	15.4	25.7	26.9	28.2	29.5	30.4	40.7	41.9	44.0	31 28.07	0.06	5.21	8 31 22.92	15.10
	38 Cancri	13	48.6	50.7	52.1	2.2	3.4	4.6	5.8	7.0	17.0	18.3	20.4	32 4.55	+ 0.06	5.21	8 31 59.40	15.09
	ϵ Hydræ	14	29.7	31.8	33.0	42.7	43.8	45.0	46.2	47.2	56.6	58.0	59.8	39 44.89	0.00	5.22	8 39 39.67	13.76
	* — 35° 22′	15	54.4	56.8	58.4	10.3	11.6	12.9	14.4	15.7	27.4	28.8	31.3	45 12.91	— 0.23	5.22	8 45 7.46	9.47
	* — 35° 5′	16	30.5	33.1	34.4	46.3	47.6	49.1	50.5	51.8	3.4	4.8	7.4	48 48.99	0.23	5.22	8 48 43.54	9.53
	O. Arg. S. 9321	17	57.4	59.6	1.0	11.7	12.8	14.0	15.2	16.4	26.6	28.2	30.2	59 13.92	0.15	5.23	8 59 8.54	11.01
	O. Arg. S. 9344	18	23.3	25.4	26.7	37.2	38.4	39.5	40.8	41.9	52.4	53.9	55.9	0 39.58	0.15	5.23	9 0 34.20	11.01
	* — 23° 33′	19	53.2	55.6	56.8	7.6	8.7	10.2	11.5	12.5	23.3	24.6	27.0	6 10.09	0.15	5.24	9 6 4.70	11.04
	O. Arg. S. 9488	20	43.4	45.5	47.0	57.6	58.9	0.1	1.4	2.6	13.5	14.7	17.2	8 0.17	0.18	5.24	9 7 54.75	10.60
	* — 27° 41′	21	55.8	57.9	59.4	10.2	11.3	12.6	14.0	15.2	25.8	27.1	29.4	10 12.61	0.18	5.24	9 10 7.19	10.61
	* — 26° 34′	22	57.8	0.0	1.4	12.4	13.4	14.7	16.2	17.2	27.8	29.3	31.3	14 14.68	0.17	5.24	9 14 9.27	10.76
	* — 26° 57′	23	7.3	9.7	11.3	22.9	24.2	25.7	27.1	28.4	39.9	41.5	43.9	17 25.63	0.17	5.25	9 17 20.21	10.74
	* — 34° 55′	24	50.6	52.7	53.9	3.5	4.8	6.0	7.2	8.4	17.6	19.0	20.9	21 6.87	0.23	5.25	9 21 1.39	9.84
	Lacaille 4387	25	59.1	1.8	3.1	15.1	16.5	17.8	19.4	20.6	32.3	33.6	36.4	33 17.79	— 0.23	5.30	10 33 12.26	10.65
	l Leonis	26	2.0	4.1	5.3	15.0	16.1	17.3	18.6	19.6	29.3	30.6	32.6	42 17.32	+ 0.01	5.31	10 42 12.02	13.44
	55 Leonis	27	38.4	40.4	41.8	51.3	52.5	53.6	54.8	55.8	5.1	6.5	8.3	48 53.50	— 0.03	5.32	10 48 48.15	12.99
	O. Arg. S. 11015	28	23.0	25.3	26.5	37.6	38.8	40.0	41.4	42.7	53.3	54.7	56.9	51 40.02	0.18	5.32	10 51 34.52	11.58
	d Leonis	29	28.1	30.1	31.2	40.8	41.9	43.1	44.4	45.5	54.7	56.1	58.0	53 43.08	0.01	5.32	10 53 37.75	13.09
	χ Leonis	30	55.7	57.8	59.0	8.6	9.8	11.0	12.2	13.2	22.6	24.0	25.9	58 10.89	0.00	5.33	10 58 5.56	13.09
	Lacaille 4630	31	48.0	50.1	51.5	2.2	3.4	4.6	6.0	7.1	17.5	18.9	21.1	4 4.58	0.16	5.33	11 3 59.09	11.86
	O. Arg. S. 11217	32	33.8	36.0	37.4	47.9	49.1	50.4	51.8	53.0	3.2	4.7	6.9	4 50.38	0.16	5.33	11 4 44.89	11.87
	p^6 Leonis	33	. .	. .	. .	. .	. .	. .	28.6	30.9	32.1	33.3	34.7	7 31.92	— 33.23	5.33	11 6 53.36	12.94
	* + 0° 38′	34	8.8	10.0	11.3	12.5	15.0	. .	42.8	44.0	45.2	46.3	47.4	12 28.33	+ 16.77	5.34	11 12 39.76	12.94
	Moon I	35	27.8	29.8	31.0	40.7	41.9	43.1	44.4	45.4	54.9	56.2	58.2	13 43.04	— 0.03	5.34	11 13 37.67	. .
	Moon II	36	29.4	31.4	32.6	42.5	43.5	44.7	46.0	47.1	56.6	57.8	59.9	15 44.68	0.03	5.34	11 15 39.31	. .
	v Leonis	37	55.2	57.0	58.2	7.8	8.9	10.1	11.3	12.4	21.7	23.0	25.0	30 10.05	— 0.04	5.35	11 30 4.66	12.91
	* — 25° 11′	38	45.4	47.0	48.4	49.6	52.4	. .	. .	. .	. .	. .	. .	39 48.56	+ 37.01	5.36	11 40 20.21	12.31
	O. Arg. S. 11656	39	23.3	25.5	26.8	37.4	38.7	40.0	41.2	42.4	52.7	54.3	56.3	40 39.87	— 0.16	5.36	11 40 34.35	12.31
	β Virginis	40	32.5	34.5	35.8	45.6	46.5	47.6	48.8	49.8	59.3	0.6	2.5	43 47.59	— 0.03	5.36	11 43 42.20	12.96
	* + 14° 4′	41	51.6	53.7	55.1	4.9	6.0	7.2	8.4	9.4	19.2	20.6	22.5	46 7.15	+ 0.03	5.36	11 46 1.82	13.10
	Vesta	42	34.5	36.6	37.8	47.7	48.9	50.0	51.2	52.4	1.9	3.2	5.4	46 49.96	0.03	5.36	11 46 44.63	. .
	Weisse 980	43	31.8	33.1	34.4	35.5	38.0	. .	. .	. .	. .	. .	. .	57 34.56	34.12	5.37	11 58 3.31	13.00
	o Virginis	44	12.4	14.4	15.7	25.5	26.6	27.8	29.0	30.0	39.7	40.9	42.9	58 27.72	+ 0.01	5.37	11 58 22.36	12.93
	Flora	45	4.7	6.7	8.0	17.6	18.8	20.6	21.1	22.2	31.8	33.0	35.0	9 19.90	0.00	5.38	12 9 14.52	. .
	13 Virginis	46	37.8	39.8	41.0	50.7	51.8	52.9	54.1	55.1	4.5	5.6	7.6	11 52.81	— 0.03	5.38	12 11 47.40	12.94
	η Virginis	47	52.8	54.8	56.0	5.5	6.6	7.7	9.0	10.0	19.5	20.8	22.8	13 7.77	— 0.03	5.38	12 13 2.36	12.91
E. 12	α Cygni	48	34.8	37.0	39.2	52.8	54.4	56.0	57.6	59.0	12.3	14.3	16.8	36 55.86	+ 0.13	6.35		+ 10.39
13	Sun I	49	43.3	45.2	46.2	56.0	57.1	58.2	59.6	0.7	10.0	11.2	13.3	33 58.25	— 0.05	— 6.48	23 33 51.72	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Mar. 11,	9.8	— 5.27	— 0.046	— 0.035

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 13	Sun II	1	..	..	..	..	..	..	37.5	39.7	41.1	42.5	43.7	36 40.90	— 33.36	— 6.48	23 36 1.06	..
E.	Polaris	2	6.0	28.0	17.0	50.0	31.0	20.0	11.0	..	15.0	10.0	38.0	9 10.60	+ 14.88	6.57	1 9 18.91	+ 118.65
α	Arietis	†3	..	..	..	..	..	..	13.5	15.9	17.4	18.6	20.1	0 17.10	— 35.97	6.61	1 59 34.52	16.41
	Venus I	4	44.9	47.0	48.3	58.5	59.6	1.0	2.0	3.1	13.0	14.3	16.4	20 0.74	+ 0.02	6.63	2 19 54.13	+ 1.02
δ	Ursæ Minoris, S. P.	5	..	..	..	10.0	30.0	6.0	21.0	1.0	23.0	46.5	8.0	23 10.69	— 7 21.14	6.82	6 15 42.73	— 86.21
	Weisse (2) 1172	6	30.1	32.3	33.6	44.1	45.2	46.5	47.8	49.0	59.4	0.6	2.9	38 46.50	+ 0.04	6.83	6 38 39.71	+ 16.48
	B. A. C. 2210	7	20.8	25.6	30.5	36.0	40.6	..	44.9	55.2	0.5	5.7	11.6	41 45.14	— 1 13.99	6.84	6 40 24.31	39.45
	O. Arg. S. 5863	8	2.9	5.1	6.6	17.4	18.7	20.1	21.5	22.6	33.3	34.8	37.0	48 20.00	+ 0.05	6.84	6 48 13.21	10.39
	Lacaille 2528	9	39.3	41.6	43.0	54.4	55.7	57.1	58.4	59.6	10.7	12.4	14.5	50 56.97	— 0.15	6.84	6 50 49.98	9.89
ε	Canis Majoris	10	10.7	13.0	14.3	25.2	26.5	27.8	29.0	30.2	41.0	42.6	44.8	53 27.74	0.14	6.85	6 53 20.75	10.29
γ	Canis Majoris	11	32.0	34.0	35.4	45.4	46.5	47.7	49.0	50.0	59.7	1.0	3.0	57 47.61	— 0.09	6.85	6 57 40.67	12.03
	(* 132) W.	12	30.3	32.6	33.8	44.2	45.4	46.6	47.9	48.9	59.1	0.7	2.6	1 46.55	+ 0.04	6.85	7 1 39.74	16.27
	Lacaille 2695	13	43.6	46.0	47.4	58.3	59.6	1.1	2.4	3.5	14.4	15.8	18.3	11 0.95	— 0.14	6.86	7 10 53.95	10.05
	O. Arg. S. 6678	14	56.0	58.6	59.9	10.6	11.9	13.2	14.6	15.7	26.4	27.7	30.0	16 13.15	0.14	6.87	7 16 6.14	10.36
	O. Arg. S. 6748	15	23.7	25.9	27.3	38.3	39.6	41.1	42.5	43.6	54.3	55.7	57.8	18 40.89	— 0.14	6.87	7 18 33.88	10.23
	O. Arg. S. 6756	16	12.1	13.7	15.4	16.8	19.5	..	28.1	30.8	32.2	33.5	35.1	18 53.72	+ 0.12	6.87	7 18 46.97	10.21
	O. Arg. S. 7063	17	17.8	20.1	21.5	32.3	33.6	35.0	36.6	37.5	48.1	49.4	51.9	29 34.89	— 0.14	6.88	7 29 27.87	10.18
	Dorpat 1138, (1st *)	18	..	11.6	12.8	22.6	23.8	25.1	26.4	27.6	37.0	38.4	..	39 25.03	— 0.09	6.88	7 39 18.06	11.99
	Dorpat 1138, (2d *)	19	47.7	49.3	50.5	52.0	54.3	..	56.3	58.7	59.9	1.2	2.5	39 25.24	+ 0.14	6.88	7 39 18.50	11.99
	B. A. C. 2606	20	26.4	29.3	31.1	45.5	47.0	48.8	50.6	52.3	6.2	8.1	10.9	44 48.75	0.13	6.89	7 44 41.99	19.46
	Weisse (2) 1459	21	22.3	24.4	25.6	35.4	36.5	37.7	38.9	40.0	49.7	51.0	52.9	49 37.67	0.00	6.89	7 49 30.78	14.64
6	Cancri	22	5.2	7.4	8.9	19.7	21.0	22.4	23.8	24.9	35.7	37.0	39.2	55 22.29	+ 0.09	6.90	7 55 15.48	+ 16.32
λ	Ursæ Minoris, S. P.	23	..	..	..	42.0	32.0	36.0	37.0	29.0	..	..	..	58 35.20	— 5.01	6.90	19 58 23.29	— 244.59
μ	Leonis	24	57.3	59.6	0.9	11.8	12.9	14.1	15.4	16.9	27.2	28.7	30.9	45 14.15	+ 0.05	6.98	9 45 7.22	+ 14.72
	O. Arg. S. 10346	25	33.4	36.8	38.0	48.8	50.1	51.4	52.9	54.0	4.4	6.0	8.3	58 51.28	— 0.13	6.99	9 58 44.16	11.03
	Lacaille 4134	26	57.3	59.4	0.8	11.9	13.0	14.3	15.6	16.7	27.4	28.5	30.8	59 14.15	0.13	7.00	9 59 7.02	11.03
	O. Arg. S. 10471	27	43.7	45.9	47.1	57.6	58.7	0.0	1.4	2.5	12.7	14.0	16.2	7 59.98	0.12	7.00	10 7 52.86	11.47
	* — 22° 57′	†28	6.0	8.2	9.6	19.9	21.2	22.4	23.6	24.9	35.1	36.3	38.6	14 22.35	0.12	7.01	10 14 15.22	11.53
	* — 29° 11′	29	54.5	56.9	58.2	9.3	10.6	11.8	13.1	14.5	25.3	26.8	29.0	17 11.82	0.14	7.01	10 17 4.67	11.07
	Lacaille 4298	30	51.2	53.5	54.8	6.0	7.3	8.7	10.0	11.1	22.3	23.5	26.0	21 8.58	0.14	7.01	10 21 1.43	11.01
ρ	Leonis	31	36.1	38.3	39.5	49.3	50.3	51.5	52.7	53.7	3.3	4.5	6.7	25 51.45	0.01	7.02	10 25 44.42	13.44
	Lacaille 4387	32	1.1	3.6	5.1	17.0	18.1	19.6	21.1	22.4	34.1	35.5	37.9	33 19.59	0.18	7.02	10 33 12.39	10.69
	Lalande 21014	33	10.7	11.9	13.1	14.4	15.5	..	..	48.1	49.4	50.6	52.2	49 29.55	16.53	7.03	10 49 5.99	13.85
	Lacaille 4565	34	45.8	47.8	49.2	0.0	1.1	2.4	3.7	4.8	15.4	16.8	19.0	56 2.36	0.13	7.04	10 55 55.19	11.72
δ	Leonis	35	..	..	..	17.6	19.1	21.0	37.0	39.5	40.6	42.2	43.5	7 32.56	27.54	7.05	11 6 57.97	13.60
	* — 25° 5′	36	19.6	21.6	22.9	32.5	33.5	34.6	35.8	36.8	46.4	47.6	49.6	36 34.63	0.14	7.07	11 36 27.42	12.25
	Lacaille 4886	37	12.7	15.2	16.8	28.5	29.8	31.3	32.8	34.0	45.6	47.1	49.2	40 31.18	— 0.17	7.08	11 40 23.93	11.92
	Vesta	38	46.2	48.3	49.5	59.7	0.6	1.8	3.0	4.0	13.8	15.1	17.2	45 1.75	+ 0.01	7.08	11 44 54.68	..
	B. A. C. 4025	39	50.7	52.7	53.9	3.5	4.5	5.6	6.8	7.9	17.4	18.5	20.6	48 5.65	— 0.04	7.08	11 47 58.53	12.80
	Weisse 895	40	34.2	36.2	37.4	47.0	48.0	49.1	50.4	51.5	1.0	2.2	4.1	52 49.19	0.04	7.09	11 52 42.06	12.90
o	Virginis	41	..	..	..	27.1	28.3	29.5	30.6	31.6	41.2	42.5	44.5	58 34.41	5.06	7.09	11 58 22.16	12.92
	Dorpat 1604, (1st *)	42	24.2	26.3	27.6	37.3	38.4	39.5	40.8	41.9	51.6	52.8	54.7	2 39.55	0.07	7.09	12 2 32.39	12.81
	Dorpat 1604, (2d *)	43	5.7	6.9	8.3	9.7	12.0	..	13.2	15.7	16.9	18.2	19.6	2 42.62	0.16	7.09	12 2 35.69	12.81
	Flora	†44	10.9	12.8	14.0	23.8	24.8	26.1	27.2	28.4	37.9	39.1	41.2	7 26.02	0.01	7.10	12 7 18.91	..
13	Virginis	45	39.8	41.5	42.9	52.5	53.6	54.7	55.9	56.9	6.4	7.6	9.5	11 54.66	0.04	7.10	12 11 47.52	12.92
η	Virginis	46	54.7	56.7	57.8	7.5	8.6	..	10.8	11.9	21.2	22.5	24.5	13 9.62	0.04	7.10	12 13 2.48	12.89
	Dorpat 1636	47	34.6	36.6	38.0	47.7	48.8	49.9	51.1	52.1	1.5	2.9	4.8	15 49.82	0.02	7.10	12 15 42.70	12.93
β	Corvi	48	11.8	14.0	15.4	25.8	26.8	28.1	29 4	30.4	40.6	42.0	44.1	27 28.04	— 0.11	7.11	12 27 20.82	12.92
	* + 12° 9′	49	41.5	43.5	44.7	54.5	55.6	56.8	58.0	..	8.7	10.0	12.2	38 56.55	+ 0.23	7.12	12 38 49.66	+ 13.05
	Moon II	50	1.6	3.8	5.1	14.9	16.0	17.3	18.4	19.5	29.0	30.3	32.3	46 17.11	— 0.06	— 7.13	12 48 9.92	..

3. Faint; through clouds.
28. Faint.
44. Faint.

March 13. By P. and P. S. P. n. $= +0.^{s}18$.

March 13, 21h. Image west 0.r.34. Clamp west.
Image west 0.14. Clamp east.
At 22h. changed the level cor.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 13, 8.0	— 6.90	— 0.048	— 0.038

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 13	κ Virginis	1	36.8	38.9	40.1	49.8	50.8	52.0	53.0	54.2	3.8	4.9	7.0	52 51.94	— 0.05	— 7.13	12 52 44.76	+ 12.93
E.	Polaris, S. P.	2	..	..	..	0.0	40.0	28.0	19.0	0.0	..	..	..	9 29.40	3.90	7.15	1 9 18.35	118.32
14	Sun I	3	..	..	..	..	..	39.0	40.2	41.3	50.9	52.1	54.1	37 46.27	— 7.21	..	..	..
Y.	Sun II	4	33.1	35.2	36.4	45.9	46.9	48.2	49.3	50.5	0.2	1.2	3.3	39 48.20	..	..	..	..
16	ζ Cygni	5	4.2	6.4	8.0	18.9	20.1	21.4	22.9	24.0	25.2	26.5	28.8	7 21.49	+ 0.04	9.86	21 7 11.67	12.64
E.	ϵ Pegasi	6	28.2	30.2	31.6	41.0	42.0	43.3	44.5	45.5	55.4	56.5	58.6	37 43.35	+ 0.02	9.88	21 37 33.49	14.57
17	Sun I	7	..	..	..	50.3	51.5	53.2	8.4	11.0	12.0	13.4	14.7	49 4.31	— 26.07	9.96	23 48 28.28	..
	Sun II	8	32.4	34.3	35.6	45.1	46.2	47.4	48.6	49.6	59.4	0.5	2.5	50 47.42	+ 0.01	9.96	23 50 37.47	..
	Polaris	9	20.0	34.0	26.0	53.0	35.0	25.0	14.0	57.0	26.0	16.0	38.0	9 25.82	2.45	10.01	..	119.70
	β Arietis	10	5.6	7.7	9.0	19.1	20.2	21.5	22.6	23.8	34.2	35.4	37.6	47 21.52	0.03	10.03	1 47 1.52	16.17
	α Arietis	11	28.2	30.3	31.7	42.0	43.1	44.4	45.7	47.0	57.4	58.5	0.7	59 44.45	0.03	10.04	1 59 34.44	16.44
	Venus I	12	18.4	20.6	21.8	31.8	32.9	34.2	35.4	36.6	47.0	48.0	50.1	32 34.26	+ 0.03	10.06	2 32 24.23	1.09
	χ Ceti	13	..	..	..	26.6	27.7	28.9	30.1	31.0	40.6	41.8	43.9	36 33.82	— 4.95	10.07	2 36 18.80	+ 15.18
	λ Ursæ Minoris, S. P.	14	..	..	..	..	..	46.0	49.0	40.0	54.0	0.0	40.0	4 58.17	— 6 24.39	10.27	..	— 246.67
	Weisse (2) 848	15	1.0	3.0	4.5	..	..	..	..	..	29.5	30.9	33.0	34 16.98	+ 0.03	10.29	8 34 6.72	+ 15.16
	* + 20° 23′	16	2.0	3.6	4.8	6.1	8.4	..	12.6	15.0	16.6	17.9	19.3	34 40.63	— 0.17	10.29	8 34 30.17	15.16
	Dorpat 1270, (1st *)	17	7.6	9.1	10.3	11.4	13.8	..	13.7	16.1	17.3	18.6	20.0	38 43.79	+ 0.23	10.29	8 38 33.27	13.11
	Dorpat 1270, (2d *)	18	19.0	21.0	22.2	41.7	42.7	43.8	45.1	46.2	55.8	57.0	59.0	38 43.95	0.00	10.29	8 38 33.66	13.11
	ϵ Hydræ	19	..	..	..	..	..	..	20.2	22.6	24.0	25.3	26.9	40 23.80	— 33.86	10.30	8 39 39.64	13.83
	Dorpat 1295, (S. *)	20	49.9	51.9	53.2	2.6	3.6	4.9	6.1	7.2	16.9	18.1	20.0	49 4.95	0.03	10.30	8 48 54.62	12.61
	Dorpat 1295, (N. *)	21	28.9	30.1	31.3	32.4	34.9	..	35.4	37.7	39.1	40.4	41.7	49 5.19	0.24	10.30	8 48 54.65	12.61
	Dorpat 1343, (1st *)	22	28.9	30.3	31.6	32.8	35.1	..	35.1	37.8	39.0	40.4	41.8	13 5.28	— 0.21	10.32	9 12 54.75	13.60
	Dorpat 1343, (2d *)	23	50.8	52.8	54.1	3.6	4.7	5.7	6.9	8.0	17.7	18.8	20.9	13 5.82	+ 0.02	10.32	9 12 55.52	13.60
	ϵ Leonis	24	7.3	9.3	10.8	21.2	22.3	23.7	24.8	26.0	36.6	37.9	40.1	38 23.64	0.08	10.33	9 38 13.39	14.75
	Weisse (2) 832	25	42.1	44.3	45.6	55.5	56.5	57.7	59.0	0.0	10.1	11.2	13.4	39 57.76	0.05	10.33	9 39 47.48	14.18
	Weisse 929	26	27.5	29.5	30.9	40.7	41.8	43.0	44.3	45.2	55.3	56.5	58.8	43 43.05	0.05	10.34	9 43 32.76	14.05
	Rumker 2988	27	..	..	..	37.7	38.8	40.1	41.3	42.4	..	..	..	46 40.06	0.10	10.34	9 46 29.82	14.07
	B. A. C. 3466	28	42.9	45.5	47.2	59.8	1.0	2.7	4.3	5.6	18.5	20.2	22.8	3 2.77	0.15	10.35	10 2 52.57	15.67
	B. A. C. 3490	29	15.8	18.3	19.7	30.8	31.9	33.4	34.8	36.0	47.4	48.9	51.2	7 33.47	0.11	10.35	10 7 23.23	14.90
	γ^1 Leonis	30	28.3	30.5	31.8	41.8	42.8	44.1	45.4	46.5	56.9	58.0	0.3	12 44.22	0.07	10.35	10 12 33.94	14.21
	Weisse (2) 290	31	15.8	17.9	19.5	30.7	31.8	33.2	34.5	35.7	47.1	48.5	50.9	15 33.24	+ 0.10	10.36	10 15 22.98	14.71
	B. A. C. 3571	32	..	..	..	24.2	26.7	29.9	32.9	35.6	59.9	2.9	7.9	20 42.50	— 11.97	10.36	10 20 20.17	18.19
	Rumker 3238	33	16.5	18.5	19.8	29.3	30.6	32.0	33.2	34.3	44.3	45.5	47.6	26 31.96	+ 0.06	10.36	10 26 21.66	13.75
	O. Arg. N. 11041	34	4.4	8.8	11.7	33.0	35.2	38.0	40.7	43.0	4.9	7.4	12.3	33 38.13	+ 0.33	10.37	10 33 28.09	16.90
	Dorpat 1487, (1st *)	35	51.0	52.6	53.8	55.0	57.7	..	4.2	6.9	8.1	9.5	11.2	48 31.00	— 0.17	10.38	10 48 20.45	13.93
	Dorpat 1487, (2d *)	36	14.7	16.8	18.2	28.8	30.0	31.3	32.5	33.6	44.3	45.6	47.9	48 31.25	+ 0.08	10.38	10 48 20.95	13.93
	ϵ Coronæ Borealis	37	55.3	57.5	58.9	9.6	10.6	12.0	13.4	14.5	25.4	26.6	29.0	52 12.07	+ 0.09	10.57	15 52 1.59	10.88
	Dorpat 1999, (1st *)	38	54.1	56.3	57.5	6.9	8.0	9.2	10.4	11.5	21.4	22.5	24.7	57 9.32	— 0.02	10.57	15 56 58.73	14.52
	ν^2 Scorpii	39	..	..	..	34.4	35.5	37.7	53.8	56.3	57.6	59.0	0.2	4 49.31	27.57	10.58	16 4 11.16	15.33
	Moon II	40	54.4	56.6	57.9	8.3	9.3	10.6	11.9	13.0	23.6	24.7	26.9	7 10.65	0.04	10.58	16 7 0.03	..
	ψ Ophiuchi	41	9.2	11.2	12.6	22.5	23.8	25.0	26.3	27.4	37.6	38.8	41.1	16 25.05	— 0.04	10.59	16 16 14.42	15.51
	η Draconis	42	49.7	53.7	56.8	16.2	18.6	21.2	23.6	26.0	46.2	48.8	53.3	22 21.28	+ 0.30	10.59	16 22 10.99	3.17
	Weisse 462	43	27.9	29.3	31.6	40.3	41.3	42.5	43.7	44.7	54.5	55.6	57.7	25 42.64	— 0.02	10.59	16 25 32.03	14.66
	ζ Ophiuchi	44	40.9	42.9	44.2	54.0	54.9	56.0	57.2	58.3	8.0	9.2	11.4	30 56.09	— 0.02	10.59	..	14.68
Tr.	α Cygni	45	39.8	42.5	44.3	57.6	58.8	0.5	2.4	3.7	17.3	19.1	22.1	37 0.74	+ 0.07	10.98	20 36 49.83	10.26
	ϵ Pegasi	46	..	..	..	42.2	43.3	44.5	45.7	46.8	56.4	57.7	59.8	37 49.55	— 5.00	11.02	21 37 33.53	+ 14.55
18	Sun I	47	3.4	5.3	6.6	16.0	17.1	18.3	19.4	20.5	30.1	31.3	33.3	52 18.30	+ 0.01	11.14	23 52 7.17	..
	Sun II	48	12.2	14.5	15.5	25.3	26.2	27.4	28.6	29.7	39.4	40.5	42.6	54 27.45	+ 0.01	—11.14	23 54 16.32	..

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 17, 5.1	— 10.16	— 0.038	+ 0.01

March 17. Before 3h. n. = + 0.05.
After 3h. + 0.15.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 18	Polaris	1	. .	32. 0	27. 0	49. 0	31. 0	22. 0	6. 0	2. 0	26. 0	12. 0	. .	9 23.00	+ 2.85	—11.20		+ 119.89
Tr.	α Arietis	2	29. 5	31. 5	32. 9	43. 1	44. 2	45. 5	46. 9	48. 1	58. 6	59. 6	2. 1	59 45.64	0.03	11.24	1 59 34.43	16.45
	Venus I	3	20. 4	22. 4	23. 9	33. 9	35. 0	36. 2	37. 5	38. 6	48. 8	50. 0	52. 3	35 36.27	+ 0.03	11.27	2 35 25.03	1. 11
	Lacaille 2797 . .	4	59. 3	1. 5	2. 9	13. 3	14. 6	16. 0	17. 2	18. 4	29. 2	30. 4	32. 6	20 15.96	— 0.06	11.41	7 20 4.49	10.67
	* — 24° 0′ . . .	5	4. 2	6. 3	8. 0	18. 6	19. 8	21. 2	22. 6	23. 7	34. 6	36. 0	38. 3	24 21.21	0.06	11.42	7 24 9.73	10.97
	O. Arg. S. 7063 . .	6	22. 2	24. 3	25. 8	36. 7	37. 7	39. 0	40. 3	41. 6	52. 8	54. 1	56. 4	29 39.17	0.07	11.43	7 29 27.67	10. 28
	O. Arg. S. 7100 . .	7	30. 4	32. 8	34. 1	44. 9	46. 1	47. 4	48. 8	50. 0	1. 0	2. 4	4. 6	30 47.50	— 0.07	11.43	7 30 36.00	10. 29
	β Geminorum .	8	59. 5	1. 8	3. 3	14. 0	15. 2	16. 2	17. 4	18. 5	29. 9	31. 2	33. 5	37 16.41	+ 0.09	11.43	7 37 5.07	16.41
	O. Arg. S. 6470 .	9	13. 2	15. 4	16. 8	27. 8	29. 0	30. 4	31. 7	33. 2	44. 3	45. 6	48. 0	43 30.49	— 0.08	11.44	7 43 18.97	10. 09
	Weisse (2) 1305 .	10	13. 5	15. 8	17. 1	27. 3	28. 4	29. 6	30. 9	32. 0	42. 4	43. 7	45. 8	46 29.68	+ 0.07	11.45	7 46 18.30	15. 74
	* + 12° 3′ . . .	11	57. 5	59. 4	0. 8	10. 4	11. 5	12. 7	14. 0	15. 0	25. 0	26. 1	28. 2	49 12.78	+ 0.04	11.45	7 49 1.37	14. 73
	(* 133) W. . . .	12	. .	. .	. .	39. 9	40. 8	42. 0	43. 2	44. 4	54. 2	55. 4	57. 4	49 47.16	— 5.03	11.45	7 49 30.68	+ 14.73
	λ Ursæ Minoris, S. P.	13	. .	. .	. .	49. 0	45. 0	48. 0	50. 0	14. 0	. .	. .	. .	58 47.20	— 10.96	11.46		— 247.67
	Weisse (2) 83 . .	14	28. 8	31. 0	32. 3	42. 3	43. 5	44. 6	45. 9	47. 1	57. 5	58. 7	0. 8	5 44.77	+ 0.07	11.47	8 5 33.77	+ 15.48
	Weisse (2) 221 . .	15	7. 9	9. 9	10. 4	21. 4	22. 4	23. 7	25. 0	26. 2	36. 3	37. 6	39. 9	11 23.70	+ 0.07	11.48	8 11 12.29	15. 42
	Dorpat 1223, (1st *)	16	10. 1	11. 6	13. 2	14. 4	17. 1	. .	24. 6	27. 2	28. 6	30. 1	31. 6	18 50.85	— 0.17	11.49	8 18 39.19	16. 06
	Dorpat 1223, (2d *)	17	34. 0	36. 1	37. 6	48. 0	49. 4	50. 8	2. 5	3. 4	4. 1	5. 3	7. 7	18 50.79	+ 0.09	11.49	8 18 39.39	16. 06
	* — 26° 53′ . .	18	43. 8	46. 1	47. 5	58. 0	59. 0	0. 4	1. 6	2. 7	13. 6	15. 0	17. 4	24 0.46	— 0.07	11.49	8 23 48.90	10. 61
	Dorpat 1245, (1st *)	19	17. 7	19. 0	20. 2	21. 4	23. 7	. .	24. 5	26. 9	27. 9	29. 1	30. 6	28 54.08	— 0.20	11.50	8 28 42.38	13. 99
	Dorpat 1245, (2d *)	20	39. 1	41. 0	42. 3	52. 0	53. 0	54. 2	55. 2	56. 3	6. 0	7. 2	9. 1	28 54.14	+ 0.03	11.50	8 28 42.67	13. 99
	* + 7° 9′ . . .	21	19. 1	21. 0	22. 2	31. 7	32. 8	34. 0	35. 2	36. 3	46. 0	47. 2	49. 2	30 34.06	0.03	11.50	8 30 22.59	13. 99
	* + 20° 39′ . .	22	4. 5	6. 5	8. 0	18. 1	19. 2	20. 5	21. 9	22. 9	33. 3	34. 5	36. 7	34 20.55	+ 0.07	11.51	8 34 9.11	15. 20
	Weisse (2) 866 . .	23	. .	. .	. .	46. 7	47. 8	49. 0	50. 2	51. 3	1. 9	3. 0	5. 2	34 54.39	— 5.23	11.51	8 34 37.65	15. 20
	ϵ Hydræ	24	36. 0	38. 2	39. 4	48. 9	49. 9	51. 1	52. 3	53. 4	3. 0	4. 3	6. 3	39 51.16	+ 0.03	11.52	8 39 39.67	13. 84
	* — 37° 30′ . .	25	28. 1	30. 7	32. 4	44. 3	45. 6	47. 1	48. 5	49. 8	2. 1	3. 5	6. 3	43 47.13	— 0.10	11.52	8 43 35.51	9. 26
	Dorpat 1295, (1st *)	26	30. 0	31. 3	32. 5	33. 8	36. 1	. .	36. 7	39. 1	40. 2	41. 7	43. 0	49 6.44	0.24	11.53	8 48 54.67	12. 62
	Dorpat 1295, (2d *)	27	51. 2	53. 2	54. 5	3. 9	5. 0	6. 2	7. 4	8. 4	18. 4	19. 4	21. 5	49 6.25	0.01	11.53	8 48 54.71	12. 62
	* — 7° 28′ . . .	28	49. 2	51. 3	52. 6	2. 0	3. 1	4. 3	5. 4	6. 5	16. 2	17. 4	19. 5	50 4.32	0.01	11.53	8 49 52.78	12. 62
	Lacaille 3617 . .	29	8. 6	11. 0	12. 4	23. 6	24. 8	26. 3	27. 7	28. 9	40. 2	41. 6	43. 9	53 26.27	0.08	11.53	8 53 14.66	10. 16
	* — 30° 10′ . .	30	41. 9	44. 0	45. 5	56. 4	57. 6	59. 0	0. 2	1. 5	12. 9	14. 2	16. 4	55 59.05	0.08	11.53	8 55 47.44	10. 33
	O. Arg. S. 9310 . .	31	41. 0	43. 1	44. 6	55. 1	56. 3	57. 5	58. 9	0. 2	10. 9	12. 3	14. 5	58 57.61	0.06	11.54	8 58 46.01	10. 77
	O. Arg. S. 9344 . .	32	29. 4	31. 4	32. 9	43. 2	44. 4	45. 6	46. 9	48. 0	58. 5	59. 9	2. 1	0 45.66	0.06	11.54	9 0 34.06	11. 09
	* — 23° 32′ . .	33	33. 4	35. 7	36. 9	47. 4	48. 6	49. 9	51. 5	52. 4	2. 9	4. 2	6. 3	1 49.91	0.06	11.54	9 1 38.31	11. 11
	Lacaille 3716 . .	34	26. 2	28. 2	29. 5	40. 0	41. 1	42. 3	43. 6	45. 0	55. 6	56. 8	59. 2	6 42.50	0.06	11.55	9 6 30.89	10. 97
	Lacaille 3741 . .	35	14. 0	16. 5	18. 1	29. 7	31. 0	32. 4	33. 8	35. 2	47. 0	48. 4	51. 0	9 32.65	0.10	11.55	9 9 21.00	9. 76
	Lacaille 3765 . .	36	. .	. .	. .	51. 2	52. 3	53. 8	55. 3	56. 6	9. 0	10. 4	13. 2	12 0.23	6.47	11.56	9 11 42.20	9. 30
	h Mali	37	. .	. .	. .	58. 0	59. 3	1. 7	18. 4	21. 0	22. 3	23. 8	25. 3	16 13.72	28.85	11.56	9 15 33.31	10. 97
	* — 8° 2′ . . .	38	45. 5	47. 5	48. 7	58. 3	59. 3	0. 5	1. 6	2. 8	12. 6	13. 7	15. 8	20 0.57	0.01	11.57	9 19 48.99	12. 53
	α Hydræ	39	55. 9	57. 9	59. 3	8. 7	9. 8	11. 0	12. 2	13. 2	22. 8	24. 2	26. 3	21 11.03	0.01	11.57	9 20 59.45	12. 52
	* — 40° 11′ . .	40	35. 4	38. 2	39. 9	42. 0	43. 2	45. 1	46. 8	48. 2	10. 7	12. 2	15. 0	1 45.15	— 0.11	11.70	11 1 33.34	10. 83
	Weisse (2) 98 . .	41	18. 1	20. 1	21. 6	31. 8	33. 0	34. 2	35. 5	36. 7	. .	. .	. .	6 28.88	+ 5.42	11.70	11 6 22.60	13. 56
	δ Leonis	42	53. 5	55. 7	57. 4	7. 1	8. 2	9. 5	10. 7	12. 1	22. 2	23. 6	25. 6	7 9.60	+ 0.07	11.70	11 6 57.97	13. 60
	Lacaille 4703 . .	43	40. 3	42. 5	44. 2	56. 4	57. 7	59. 3	0. 7	2. 1	14. 8	16. 2	18. 8	12 59.36	— 0.11	11.71	11 12 47.54	11. 42
	Lacaille 4714 . .	44	45. 7	48. 0	49. 4	0. 1	1. 4	2. 8	4. 2	5. 3	16. 2	17. 6	19. 9	15 2.78	0.07	11.71	11 14 51.00	11. 80
	Lacaille 4722 . .	45	12. 0	14. 2	15. 7	26. 2	27. 5	28. 7	30. 2	31. 4	42. 0	43. 2	45. 6	17 28.79	0.06	11.72	11 17 17.01	11. 96
	O. Arg. S. 11370 .	46	34. 8	36. 7	38. 1	48. 7	49. 8	51. 1	52. 4	53. 6	4. 4	5. 6	7. 8	18 51.18	0.06	11.72	11 18 39.40	11. 98
	* — 35° 25′ . .	47	. .	. .	. .	55. 2	56. 4	57. 9	59. 4	0. 6	12. 4	14. 0	16. 3	28 4.03	6.18	11.73	11 27 46.12	11. 65
	Lacaille 4614 . .	48	49. 9	52. 3	53. 9	6. 1	7. 4	8. 9	10. 4	11. 8	24. 2	25. 5	28. 2	31 8.96	0.11	11.73	11 30 57.12	11. 53
	* — 38° 36′ . .	49	57. 1	59. 7	1. 3	13. 3	14. 6	16. 1	17. 6	19. 2	31. 4	32. 9	35. 5	32 16.24	0.11	11.73	11 32 4.40	11. 56
	Lacaille 4830 . .	50	38. 6	40. 6	42. 4	54. 6	56. 2	57. 4	58. 8	0. 5	12. 6	14. 2	16. 7	32 57.51	— 0.11	—11.73	11 32 45.67	+ 11.57

March 18. Before 3h., n. = + 0. 05.
After 3h., + 0. 15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Mar. 17, 22.7	— 11.08	— 0.050	+ 0,01
18, 13.4	— 11.88	— 0.077	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 18 Tr.	Rumker 3727	1	12.0	14.3	15.5	25.3	26.4	27.5	28.8	29.8	40.0	41.1	43.1	38 27.62	+ 0.02	—11.74	11 38 15.90	+ 13.13
	Vesta	2	13.7	15.7	17.2	26.8	27.8	29.1	30.3	31.4	41.4	42.7	44.7	40 29.16	0.02	11.74	11 40 17.44	. .
	Flora	3	20.4	22.4	23.7	33.2	34.5	35.8	37.1	38.4	47.5	49.0	50.9	2 35.72	+ 0.04	11.78	12 2 23.98	. .
	χ Ophiuchi	4	10.3	12.3	13.8	23.8	25.1	. .	27.7	28.9	38.6	39.7	41.9	19 26.21	— 0.05	12.10	16 19 14.06	15.35
	ω Ophiuchi	5	6.4	8.6	9.9	20.0	21.2	22.4	23.7	24.8	35.2	36.6	38.7	24 22.50	0.05	12.11	16 24 10.34	11.71
	ζ Ophiuchi	6	42.2	44.4	45.6	55.1	56.4	57.4	58.7	59.7	9.4	10.6	12.9	29 57.49	0.02	12.12	16 29 45.35	+ 14.65
	ϵ Ursæ Minoris	7	38.5	46.0	57.0	6.0	23.0	. .	48.5	7.0	15.5	27.0	35.0	0 6.65	0.51	12.16	16 59 53.68	— 30.68
	Moon II	8	22.9	25.0	26.5	36.7	37.7	38.9	40.1	41.3	52.1	53.6	55.6	1 39.13	— 0.05	12.16	17 1 26.92	. .
	α Herculis	9	27.5	29.5	30.8	40.7	42.0	43.0	44.2	45.3	55.4	56.6	58.8	8 43.07	+ 0.05	12.17	17 8 30.95	+ 12.33
	ν Serpentis	10	12.6	14.6	15.9	25.5	26.6	27.8	29.0	30.0	39 9	41.2	43.2	13 27.85	— 0.02	12.17	17 13 15.66	15.23
	α Ophiuchi	11	38.2	40.1	41.4	51.0	52.2	53.5	54.8	55.9	5.8	6.8	8.9	28 53.51	+ 0.04	12.20	17 28 41.35	12.66
	Jupiter I	12	25.3	26.7	28.1	29.3	32.1	. .	37.0	39.5	11.0	42.2	43.8	51 4.50	— 0.30	12.22	17 50 51.98	. .
	Jupiter II	13	51.1	52.9	54.4	4.7	6.0	7.2	8.3	9.5	19.9	21.1	23.8	51 7.17	— 0.05	12.22	17 50 54.90	. .
	ζ Aquilæ	14	10.0	12.0	13.3	23.1	24.2	25.2	26.5	27.6	37.6	38.8	40.8	59 25.37	+ 0.05	12.31	18 59 13.11	12.99
19 Y.	b Ophiuchi	15	6.2	8.3	9.6	20.1	21.2	22.4	23.8	24.9	35.6	36.8	39.2	18 22.55	— 0.01	13.19	17 18 9.35	16.53
	α Ophiuchi	16	39.3	41.2	42.5	52.4	53.3	54.5	55.7	56.9	6.8	7.9	9.8	28 54.57	+ 0.02	13.20	17 28 41.39	12.63
	μ Herculis	17	7.9	10.1	11.5	22.3	23.3	24.7	26.0	27.2	38.1	39.4	41.7	41 24.75	+ 0.04	13.21	17 41 11.58	10.68
	Moon II	†18	. .	. .	. .	7.8	9.1	11.3	27.9	30.4	31.8	33.1	34.6	58 23.25	— 28.35	13.22	17 57 41.68	. .
	α Lyræ	19	. .	. .	. .	33.1	34.3	35.8	37.5	38.9	51.1	52.7	55.2	32 42.32	— 6.30	13.24	18 32 22.78	9.51
20 E.	ϵ Hydræ	20	. .	40.3	41.5	51.2	52.1	53.4	54.6	55.6	5.3	6.5	. .	39 53.39	+ 0.03	13.74	8 39 39.68	13.87
	Dorpat 1295, (S. *)	21	32.2	. .	34.9	36.1	38.5	. .	38.9	41.5	42.7	43.9	45.3	49 12.65	— 4.14	13.74	8 48 54.77	12.64
	Dorpat 1295, (N. *)	22	53.7	55.4	. .	6.3	. .	. .	9.7	10.7	20.6	21.6	23.8	49 10.22	— 1.65	13.74	8 48 54.83	12.64
	σ^3 Ursæ Majoris	23	5.4	10.6	14.0	39.1	41.7	44.9	47.8	50.5	16.0	19.1	24.5	58 44.87	+ 0.43	13.75	8 58 31.55	23.29
	κ Cancri	24	26.8	28.6	30.0	39.6	40.6	41.8	43.0	44.1	53.9	55.0	57.1	0 41.86	+ 0.05	13.75	9 0 28.16	14.14
	O. Arg. S. 9488	†25	51.6	53.8	55.4	6.0	7.2	8.4	9.7	10.8	21.8	23.0	25.4	8 8.46	— 0.07	13.76	9 7 54.63	10.71
	Dorpat 1343, (1st *)	†26	32.3	33.7	35.0	36.3	38.6	. .	39.6	41.5	42.8	44.1	45.5	13 8.94	— 0.20	13.76	9 12 54.98	13.63
	Dorpat 1343, (2d *)	†27	54.2	56.2	57.5	7.0	8.0	9.1	10.3	11.4	21.1	22.3	24.3	13 9.21	+ 0.03	13.76	9 12 55.48	13.63
	Carrington 1381	28	7.5	21.5	30.5	37.1	44.1	53.5	1.9	9.7	17.4	26.3	40.6	17 53.65	1.24	13.76	9 17 41.13	38.26
	θ Ursæ Majoris	29	40.4	43.7	45.6	1.2	2.8	4.9	6.8	8.5	24.3	26.1	29.5	24 4.89	0.23	13.77	9 23 51.35	17.73
	Weisse (2) 832	30	45.7	47.8	49.1	58.7	59.8	1.1	2.3	3.4	13.4	14.7	16.7	40 1.15	0.06	13.78	9 39 47.43	14.21
	Weisse 929	31	31.1	33.2	34.4	44.3	45.3	46.5	47.6	48.7	58.8	0.0	2.1	43 46.55	+ 0.06	13.78	9 43 32.83	14.08
	* + 15° 20′	32	48.6	50.2	51.5	52.7	55.2	. .	57.4	59.9	1.2	2.4	3.9	46 26.30	— 0.18	13.79	9 46 12.33	14.09
	Rumker 2988	33	6.2	7.7	8.9	10.2	12.4	. .	14.9	17.3	18.6	20.0	21.4	46 43.76	0.18	13.79	9 46 29.79	14.09
	Lacaille 4126	34	7.1	9.4	10.5	21.0	22.2	23.6	24.8	25.7	36.3	37.5	39.8	58 23.45	0.05	13.80	9 58 9.60	11.43
	* — 23° 16′	35	. .	. .	. .	. .	. .	. .	25.4	27.9	29.3	31.6	32.2	1 29.28	36.66	13.80	10 0 38.82	11.45
	O. Arg. S. 10471	36	50.5	52.6	53.9	4.2	5.2	6.4	8.0	9.0	19.5	20.7	23.0	8 6.64	0.01	13.80	10 7 52.79	11.51
	Lacaille 4218	37	54.7	57.0	58.4	9.4	10.4	11.7	13.1	14.2	25.1	26.3	28.8	10 11.74	0.07	13.81	10 9 57.86	11.14
	* — 27° 31′	†38	21.4	24.0	25.4	35.9	37.1	38.4	39.7	41.1	52.0	53.3	55.5	15 38.51	0.07	13.81	10 15 24.63	11.22
	Lacaille 4298	39	57.9	0.3	1.7	12.7	13.8	15.2	16.6	17.7	29.0	30.2	32.7	21 15.25	— 0.08	13.81	10 21 1.36	11.05
	ρ Leonis	40	43.1	45.0	46.3	55.9	57.0	58.1	59.3	0.4	10.2	11.4	13.4	25 58.19	+ 0.04	13.82	10 25 44.41	13.47
	O. Arg. S. 10849	41	0.3	2.6	4.0	14.4	15.3	16.6	17.9	19.0	29.7	30.9	33.1	38 16.71	— 0.05	13.83	10 38 2.83	11.74
	Struve C. G. 1248	42	43.4	45.6	47.0	57.5	58.6	0.0	1.5	2.6	. .	. .	. .	43 54.53	+ 5.60	13.83	10 43 46.30	13.98
	Dorpat 1487, (1st *)	43	17.6	19.6	21.1	. .	. .	. .	. .	. .	47.3	48.4	50.8	48 34.13	0.05	13.84	10 48 20.34	13.93
	Dorpat 1487, (2d *)	44	. .	. .	. .	32.1	33.3	34.6	36.8	37.0	. .	. .	. .	48 34.76	0.14	13.84	10 48 21.06	13.93
	Weisse (2) 994	45	57.3	59.5	0.8	11.2	12.3	13.7	15.0	16.1	26.7	28.0	30.0	50 13.69	0.09	13.84	10 49 59.94	13.90
	χ Leonis	46	4.3	6.1	7.5	16.9	18.0	19.2	20.4	21.5	31.3	32.4	34.5	58 19.28	0.04	13.85	10 58 5.47	13.09
	Vesta	47	25.6	27.5	28.8	38.6	39.7	40.8	42.0	43.2	53.1	54.4	56.4	38 40.92	0.06	13.87	11 38 27.11	. .
	β Leonis	48	10.9	13.0	14.4	24.2	25.3	26.5	27.8	28.9	38.7	40.0	42.1	42 26.53	0.06	13.88	11 42 12.71	12.91
	B. A. C. 4025	49	57.6	59.5	0.9	10.1	11.2	12.3	13.6	14.7	24.3	25.4	27.6	48 12.47	+ 0.01	13.88	11 47 58.60	12.86
	Radcliffe 2769	50	. .	. .	. .	21.1	22.5	23.9	25.5	26.9	39.4	41.1	43.9	50 20.54	— 6.42	—13.89	11 50 10.23	+ 13.12

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Mar. 19, 17.8	— 13.21	— 0.047	+ 0.010
20, 14.0	— 13.99	— 0.048	+ 0.015

18. Faint; through clouds.
25. Faint.
26, 27. Very faint.
38. Very faint.

s.
March 19, n. = + 0.05.
20, + 0.16.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 20		Radcliffe 2771	1	13.7	16.7	18.0	30.7	31.9	33.3	34.9	36.4	. .	. .	. .	50 26.90	+ 6.78	—13.89	11 50 19.79	+ 13.12
E.	o	Virginis	2	21.0	23.0	24.4	33.8	34.9	36.1	37.4	38.5	. .	49.3	51.3	58 34.97	1.24	13.89	11 58 22.32	12.87
	η	Virginis	3	1.3	3.5	4.7	14.1	15.1	16.3	17.5	18.6	28.4	29.5	31.5	13 16.41	0.02	13.90	12 13 2.53	12.85
	η	Serpentis	4	19.9	21.8	23.2	32.6	33.6	34.8	36.0	37.1	46.8	47.9	50.0	14 34.88	+ 0.01	14.19	18 14 20.70	14.28
	1	Aquilæ	5	52.0	54.0	55.1	4.7	5.7	7.0	8.1	9.3	19.0	20.2	22.3	28 7.04	— 0.01	14.21	18 28 52.82	15.13
	α	Lyræ	6	17.7	19.2	21.6	34.0	35.3	36.7	38.3	39.7	52.1	53.6	56.2	32 36.76	+ 0.15	14.21	18 32 22.70	9.47
	σ	Sagittarii	7	52.3	54.5	55.9	6.5	7.5	9.0	10.4	11.6	22.2	23.4	25.9	47 9.02	— 0.06	14.22	18 47 54.74	17.41
		Moon II	8	17.6	19.7	20.0	31.3	32.3	33.6	34.9	36.0	46.6	47.9	50.0	55 33.63	— 0.04	14.23	18 55 19.36	. .
	ζ	Aquilæ	9	12.0	14.0	15.3	25.0	26.0	27.3	28.6	29.6	39.4	40.7	42.8	59 27.34	+ 0.05	14.23	18 59 13.16	12.94
Y.	ζ	Cygni	10	8.6	10.8	12.5	23.3	24.4	25.8	27.1	28.4	39.4	40.9	43.1	7 25.85	+ 0.11	14.27		12.54
	β	Cephei	†11	. .	. .	. .	41.1	44.5	50.6	34.9	41.6	45.3	49.1	53.0	28 22.51	— 1 15.44	14.29		5.44
21	δ	Aquilæ	12	42.1	44.1	45.5	54.8	55.9	57.1	58.2	59.4	8.9	10.2	12.2	18 57.13	+ 0.02	14.85	19 18 42.30	14.27
	γ	Aquilæ	13	50.7	52.8	54.1	3.7	4.7	5.9	7.1	8.2	18.0	19.2	21.3	40 5.97	0.04	14.86	19 40 51.15	13.55
	α	Aquilæ	14	12.2	14.2	15.5	25.0	26.0	27.2	28.4	29.5	39.3	40.5	42.5	44 27.30	0.04	14.86	19 44 12.48	13.93
Tr.	ζ	Cygni	15	45.2	46.8	48.2	49.4	52.2	. .	. .	. .	. .	. .	. .	6 48.36	+ 38.30	14.95		12.52
22		Weisse 1296	16	42.2	43.6	44.9	46.2	48.5	. .	50.0	52.5	53.7	55.2	56.5	1 19.33	— 0.17	15.68	10 1 3.48	13.80
	α	Leonis	17	13.3	15.4	16.8	26.4	27.5	28.7	29.9	31.0	40.7	42.0	44.0	1 28.70	+ 0.06	15.68	10 1 13.08	13.72
		O. Arg. 8. 10471	18	52.3	54.4	55.8	5.9	7.1	8.4	9.7	10.8	21.3	22.5	24.9	8 8.46	— 0.05	15.69	10 7 52.71	11.52
	γ	Leonis, (1st *)	19	33.5	35.6	37.1	47.0	48.2	49.5	50.7	51.9	2.2	3.4	5.6	12 49.52	+ 0.08	15.70	10 12 33.90	14.25
	γ	Leonis, (2d *)	20	11.3	12.8	14.2	15.5	18.0	. .	22.2	24.6	25.8	27.3	28.8	12 50.05	— 0.16	15.70	10 12 34.21	14.15
		* — 27° 19′	21	38.8	41.1	42.6	53.2	54.3	55.8	57.1	58.2	9.1	10.4	12.7	16 55.75	0.06	15.70	10 16 39.99	11.26
		Lacaille 4298	22	59.7	2.0	3.6	14.5	15.6	17.0	18.4	19.6	30.7	32.2	34.5	21 17.07	— 0.07	15.70	10 21 1.30	11.06
		Weisse 664	23	3.3	5.2	6.5	16.1	17.1	18.2	19.4	20.4	30.2	31.4	33.5	38 18.30	+ 0.03	15.72	10 38 2.61	13.19
	l	Leonis	24	12.4	14.3	15.6	25.3	26.4	27.5	28.8	29.9	39.6	40.9	43.0	42 27.61	0.05	15.72	10 42 11.94	13.46
		Vesta	25	38.4	40.4	41.8	51.6	52.6	53.8	55.1	56.2	6.1	7.4	9.5	36 53.90	0.06	15.77	11 36 38.19	. .
	β	Leonis	26	12.9	14.9	16.3	26.0	27.3	28.5	29.7	30.7	40.7	42.0	44.1	42 28.46	0.06	15.77	11 42 12.75	12.91
		Weisse 461	27	21.2	23.3	24.6	34.3	35.3	36.5	37.8	38.8	48.8	50.0	52.1	28 36.61	0.06	15.81	12 28 20.86	12.76
		Hebe	28	31.7	33.7	35.2	44.8	45.7	46.9	46.2	49.2	59.1	0.5	2.7	31 47.06	+ 0.06	15.81	12 31 31.31	. .
		* + 13° 34′	29	. .	. .	. .	16.7	17.7	19.0	20.1	21.2	31.2	32.3	34.5	32 24.09	— 5.04	15.81	12 32 3.24	12.74
		Weisse 652	30	11.7	13.9	15.2	. .	. .	. .	. .	. .	39.4	40.6	42.7	39 27.25	+ 0.02	15.82	12 39 11.45	12.69
		Lalande 23832	31	20.8	23.0	24.3	33.9	34.8	36.2	37.4	38.5	. .	. .	. .	40 31.11	5.20	15.82	12 40 20.49	12.69
	θ	Virginis	32	1.1	3.0	4.3	13.8	14.9	16.1	17.3	18.2	28.0	29.2	31.3	3 16.11	+ 0.01	15.84	13 3 0.28	12.97
		Polaris, S. P.	33	. .	. .	. .	9.0	52.0	40.0	29.0	12.0	. .	. .	. .	9 40.40	— 9.18	15.84		119.48
	α	Virginis	34	8.4	10.3	11.6	21.2	22.3	23.4	24.7	25.8	35.4	36.6	38.8	18 23.50	— 0.01	15.85	13 18 7.64	13.16
23		Venus I	35	42.1	44.0	45.5	55.7	56.7	57.9	59.2	0.3	10.7	11.9	14.1	49 58.01	+ 0.08	16.46	2 49 41.63	1.20
Y.	α	Ceti	36	. .	. .	. .	42.1	43.3	45.3	0.5	2.9	4.2	5.6	6.8	55 56.34	— 26.03	16.46		15.29
		Weisse (2) 1305	37	18.6	20.7	22.0	32.3	33.3	34.6	35.9	37.0	47.3	48.8	50.8	46 34.66	+ 0.08	16.69	7 46 18.05	15.83
		Weisse 1459	38	45.7	47.7	48.9	58.6	59.6	0.9	2.0	3.2	13.0	14.2	16.2	50 0.91	+ 0.05	16.70	7 49 44.26	+ 14.80
	λ	Ursæ Minoris, S. P.	39	. .	. .	. .	3.0	57.5	59.6	3.0	55.0	. .	. .	. .	58 59.50	— 12.00	16.70		— 252.24
		Weisse (2) 83	40	33.7	35.9	37.2	47.5	48.4	49.7	51.0	52.0	2.4	3.7	5.9	5 49.76	+ 0.08	16.71	8 5 33.13	+ 15.56
		Weisse (2) 221	41	12.8	14.9	16.2	26.4	27.5	28.8	30.0	31.2	41.4	42.7	45.0	11 23.81	+ 0.08	16.71	8 11 12.18	15.48
		Dorpat 1223, (1st *)	42	15.2	16.9	18.2	19.5	22.3	. .	29.9	32.6	34.0	35.3	36.7	18 56.06	— 0.15	16.72	8 18 39.19	16.15
		Dorpat 1223, (2d *)	43	38.8	41.1	42.3	53.1	54.3	55.6	56.8	58.0	9.0	10.2	12.5	18 55.61	+ 0.11	16.72	8 18 39.00	16.15
		Weisse (2) 491	44	55.0	57.3	58.5	8.2	9.2	10.4	11.7	12.8	22.9	24.2	26.1	22 10.57	0.07	16.72	8 21 53.92	15.00
	η	Cancri	45	56.6	58.7	0.0	10.1	11.3	12.6	13.8	15.0	25.4	26.5	28.7	25 12.61	0.08	16.72	8 24 55.97	15.37
		* + 20° 30′	46	49.8	51.9	53.2	3.4	4.5	5.7	7.0	8.2	18.4	19.7	21.9	30 5.79	0.08	16.73	8 29 49.14	15.30
		* + 20° 25′	47	54.1	56.3	57.6	7.8	9.0	10.2	11.4	12.6	22.8	24.0	26.3	31 10.19	0.08	16.73	8 30 53.54	15.28
		* + 20° 29′	48	. .	. .	. .	33.4	34.6	35.9	37.0	38.3	. .	. .	. .	31 35.84	0.13	16.73	8 31 19.24	15.27
		* + 20° 20′	49	. .	. .	. .	49.1	50.1	51.4	52.6	53.7	. .	. .	. .	31 51.38	0.13	16.73	8 31 34.78	15.27
		Weisse (2) 784	50	. .	. .	. .	12.6	13.7	15.0	16.2	17.4	. .	. .	. .	32 14.98	+ 0.13	—16.73	8 31 58.38	+ 15.26

11. Faint.

March 21-22, n. = + 0.16.
23, + 0.16.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Mar. 21, 19.6	— 14.86	— 0.026	+ 0.015	
22, 11.5	15.76	0.050	+ 0.020	
23, 7.9	— 16.70	— 0.048		

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 23	39 Cancri	1	..	..	..	36.5	37.7	38.9	40.1	41.2	..	..	..	32 38.88	+ 0.13	—16.73	8 32 22.28	+ 15.26
Y.	* + 20° 26′	2	..	..	..	45.5	46.5	47.9	49.0	50.2	..	..	..	32 47.82	+ 0.13	16.73	8 32 31.22	15.26
	40 Cancri	3	..	..	..	56.7	57.9	0.1	16.3	18.8	20.1	21.6	22.9	33 11.80	— 27.71	16.73	8 32 27.36	15.27
	Weisse (2) 829	4	..	..	..	44.4	45.5	46.7	48.0	49.0	..	..	..	33 46.72	+ 0.13	16.73	8 33 30.12	15.25
	Weisse (2) 848	5	7.3	9.5	10.7	20.9	21.9	23.2	24.5	25.5	35.8	37.2	39.4	34 23.26	0.08	16.73	8 34 6.61	15.25
	ε Hydræ	6	41.1	43.2	44.4	54.0	55.0	56.2	57.4	58.5	8.2	9.4	11.4	39 56.25	+ 0.04	16.74	8 39 39.55	13.91
	Lacaille 3582	7	39.2	41.4	43.0	54.1	55.3	56.7	58.1	59.4	10.6	11.9	14.5	48 56.75	— 0.08	16.74	8 48 39.93	10.19
	O. Arg. S. 9178	8	12.6	15.0	16.5	27.5	28.6	30.0	31.5	32.7	43.9	45.3	47.5	51 30.11	0.07	16.75	8 51 13.29	10.39
	Lacaille 3617	9	13.7	16.0	17.5	28.6	29.8	31.2	32.6	33.8	45.1	46.5	48.8	53 31.24	0.07	16.75	8 53 14.42	10.24
	O. Arg. S. 9252	10	22.3	24.6	26.0	36.5	37.6	38.9	40.3	41.3	52.2	53.5	55.8	55 39.00	0.06	16.75	8 55 22.19	10.87
	O. Arg. S. 9321	11	8.5	10.7	12.1	22.4	23.6	24.8	26.1	27.3	37.8	39.0	41.2	59 24.86	— 0.05	16.75	8 59 8.06	11.16
	Carrington 1338	12	..	..	..	8.5	14.5	23.9	31.4	39.2	..	..	..	5 23.50	+ 1.59	16.76	9 5 8.33	40.27
	Dorpat 1343, (1st *)	13	35.5	36.7	38.0	39.2	41.4	..	41.8	44.4	45.5	46.7	48.0	13 11.72	— 0.19	16.76	9 12 54.77	13.66
	Dorpat 1343, (2d *)	14	57.3	59.2	0.4	9.9	10.9	12.1	13.3	14.4	24.0	25.2	27.2	13 12.17	+ 0.04	16.76	9 12 55.45	13.66
	* — 34° 54′	15	18.5	20.8	22.4	34.0	35.2	36.7	38.0	39.4	51.2	52.6	55.2	17 36.73	— 0.09	16.77	9 17 19.87	9.97
	α Hydræ	16	1.0	3.0	4.3	13.9	14.9	16.1	17.3	18.3	28.2	29.3	31.3	21 16.15	0.00	16.77	9 20 59.38	12.57
	Lacaille 3903	17	41.6	44.1	45.8	57.9	59.2	0.7	2.1	3.5	15.9	17.5	20.0	28 0.75	0.10	16.78	9 27 43.87	9.60
	Lacaille 3946	18	51.8	54.4	55.8	7.4	8.6	10.2	11.6	12.9	24.7	26.2	28.7	32 10.21	0.09	16.78	9 31 53.34	10.03
	* — 37° 52′	19	4.3	6.9	8.3	20.5	21.8	23.3	24.7	26.1	38.4	39.8	42.2	36 23.30	— 0.10	16.78	9 36 6.42	9.78
	Weisse (2) 819	20	11.3	13.3	14.6	24.6	25.6	26.8	28.0	29.2	39.3	40.4	42.6	39 26.88	+ 0.07	16.78	9 39 10.17	14.24
	Weisse (2) 832	21	48.4	50.5	51.9	1.7	2.8	4.0	5.2	6.3	16.4	17.6	19.8	40 4.05	+ 0.07	16.78	9 39 47.34	14.23
	* — 40° 5′	22	32.5	34.7	36.4	49.0	50.2	51.7	53.3	54.5	7.2	9.0	11.5	49 51.82	— 0.11	16.79	9 49 34.92	9.66
	* — 40° 8′	23	31.5	34.2	35.7	48.2	49.5	51.0	52.7	54.0	6.6	8.4	10.7	50 51.10	0.11	16.79	9 50 34.20	9.67
	O. Arg. S. 10324	24	31.6	33.8	35.1	45.6	46.8	48.0	49.3	50.5	1.2	2.4	4.6	57 48.08	0.05	16.80	9 57 31.23	11.34
	* — 24° 18′	25	12.8	15.1	16.4	26.8	28.0	29.2	30.5	31.6	42.2	43.5	45.6	1 29.25	0.05	16.80	10 1 12.40	11.40
	* — 24° 15′	26	30.5	32.7	34.0	44.4	45.5	46.8	48.1	49.3	59.9	1.1	3.2	2 46.87	— 0.05	16.80	10 2 30.02	11.41
	ρ Leonis	27	46.1	48.0	49.3	58.9	59.9	1.1	2.3	3.5	13.3	14.4	16.4	26 1.20	+ 0.05	16.82	10 26 44.43	13.49
Tr.	ε Pegasi	28	36.1	38.0	39.3	49.0	50.0	51.1	52.4	53.4	3.3	4.4	6.4	37 51.22	0.05	17.62		14.43
	Moon II	29	0.6	2.5	3.8	13.7	14.8	16.0	17.2	18.4	28.4	29.5	31.7	52 16.05	0.00	17.63	21 51 58.42	
26	β Cephei	30	30.2	35.3	39.4	6.7	9.7	13.1	16.7	19.6	47.8	51.5	57.5	27 13.41	0.46	20.71		5.17
E.	ε Pegasi	†31	39.4	41.4	42.5	52.3	53.2	54.3	55.5	56.6	6.3	7.5	9.5	37 54.41	0.05	20.72	21 37 33.74	14.37
	α Aquarii	†32	57.0	59.0	0.2	9.7	10.7	11.9	13.1	14.2	23.8	25.1	27.3	59 12.00	0.02	20.73	21 58 51.29	15.13
27	Sun I	†33	57.4	59.4	0.6	10.2	11.2	12.2	13.4	14.4	24.2	25.2	27.2	25 12.31	0.03	20.82	0 24 51.52	..
	Sun II	34	5.8	7.9	9.2	18.8	19.9	21.0	22.2	23.3	32.9	34.0	36.2	27 21.02	0.03	20.82	0 27 0.23	..
	Mercury I	35	40.9	42.9	44.3	53.7	54.8	56.0	57.2	58.3	8.1	9.2	11.3	1 56.06	0.04	20.84	1 1 35.26	0.18
	Polaris	†36	..	..	..	0.0	44.0	32.0	13.0	1.0	..	..	..	9 30.00	8.50	20.84		122.00
	β Arietis	†37	16.4	18.6	19.8	29.9	30.9	32.2	33.4	34.6	..	..	..	47 26.98	5.39	20.86	1 47 11.51	16.22
	α Arietis	38	38.9	41.0	42.5	52.7	53.8	55.1	56.4	57.6	8.0	9.3	11.6	59 55.17	+ 0.09	20.87	1 59 34.39	16.51
	α Ceti	39	32.3	33.3	34.6	35.8	37.0	..	5.0	7.3	8.6	9.8	11.2	55 51.49	— 16.80	20.90	2 55 13.79	15.33
	Venus I	40	3.6	5.8	7.2	17.4	18.4	19.5	20.7	21.9	32.6	33.9	36.1	0 19.74	+ 0.08	20.90	2 59 58.92	1.29
	α Persei	41	40.1	43.4	45.4	59.6	1.4	3.3	5.0	6.6	21.5	23.3	26.4	15 3.27	+ 0.20	20.91	3 14 42.56	+ 20.53
	λ Ursæ Minoris	42	..	..	..	19.0	27.0	8.5	6.0	8.5	11.0	20.0	25.0	21 30.62	—22 33.10	21.09		— 256.39
	39 Cancri	43	..	..	..	..	..	..	15.4	18.0	19.5	20.8	22.2	33 19.18	— 35.78	21.09	8 32 22.31	+ 15.31
	B. A. C. 2925	44	..	..	..	31.7	32.9	34.2	35.4	36.4	..	..	..	33 34.12	+ 0.13	21.09	8 33 13.16	15.31
	Weisse (2) 829	45	..	..	..	48.7	49.8	51.0	52.3	53.5	..	..	..	33 51.06	0.13	21.09	8 33 30.10	15.31
	* + 20° 25′	46	11.6	13.7	15.1	..	..	..	..	..	42.4	43.7	46.0	34 28.75	0.04	21.09	8 34 7.70	15.31
	Weisse (2) 866	47	..	..	..	56.0	57.0	58.4	59.8	0.9	..	..	..	34 58.42	0.13	21.09	8 34 37.46	15.31
	ε Hydræ	48	45.5	47.4	48.8	58.2	59.1	0.5	1.6	2.7	12.4	13.6	15.6	40 0.49	0.04	21.10	8 39 39.43	13.96
	Weisse (2) 198	49	45.0	47.0	48.3	58.3	59.3	0.5	2.0	3.0	13.3	14.4	16.5	11 0.69	0.07	21.12	9 10 39.64	14.73
	83 Cancri	50	34.0	36.0	37.5	47.3	48.3	49.6	50.9	52.0	2.1	3.3	5.6	11 49.69	+ 0.07	—21.12	9 11 28.64	+ 14.67

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 23, 21.6	— 17.62	— 0.048	+ 0.020
27, 6.1	— 21.01	— 0.034	+ 0.025

31. Unsteady.
32. Very faint.
33. Unsteady.
36. Faint; unsteady.
37. Faint.

March 26-27, n. = + 0.14.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 27	*—28° 29′	1	34.8	37.0	38.5	49.2	50.5	51.7	53.0	54.3	5.3	6.5	8.9	17 51.79	— 0.05	—21.12	9 17 30.62	+ 10.78
E.	*—28° 28′	2	21.5	22.8	24.5	25.9	28.4	. .	37.1	39.5	41.0	42.8	44.0	18 2.75	— 0.31	21.12	9 17 41.32	10.78
	*—27° 47′	3	51.9	54.1	55.5	6.4	7.4	8.8	10.1	11.3	22.3	23.5	25.6	21 8.81	+ 0.05	21.12	9 20 47.74	10.87
	*—27° 35′	4	45.5	47.0	48.5	49.6	52.4	. .	0.1	3.0	4.4	5.8	7.4	24 26.37	— 0.31	21.12	9 24 4.94	10.91
	*—27° 36′	5	1.8	3.3	4.7	6.1	8.3	. .	16.4	19.0	20.6	22.0	23.4	24 42.56	— 0.31	21.12	9 24 21.13	10.91
	*+35° 4′	6	18.7	19.9	22.1	32.6	33.6	35.1	36.4	37.5	48.2	49.2	51.5	31 35.01	+ 0.13	21.13	9 31 14.01	15.89
	Lacaille 3975	7	43.9	46.2	47.5	58.5	0.1	1.5	2.9	4.3	15.7	17.2	19.7	36 1.65	— 0.06	21.13	9 35 40.46	10.44
ε	Leonis	8	17.9	20.1	21.5	31.9	33.6	34.2	35.5	36.8	47.3	48.7	50.9	38 34.35	+ 0.09	21.13	9 38 13.31	14.86
	Weisse 929	9	38.3	40.3	41.8	51.5	52.6	53.9	55.6	56.2	6.1	7.3	9.5	43 53.86	0.06	21.13	9 43 32.79	14.14
	(* 114) W.	10	25.1	27.3	28.7	. .	. .	. .	. .	. .	52.9	54.2	56.1	46 40.72	0.02	21.13	9 46 19.61	14.13
π	Leonis	11	12.9	14.9	16.1	25.8	26.9	28.0	29.3	30.2	40.0	41.2	43.2	53 28.05	+ 0.05	21.14	9 53 6.96	13.66
	O. Arg. 8. 10324	12	35.9	38.1	39.5	49.8	51.0	52.3	53.5	54.7	5.2	6.6	8.9	57 52.32	— 0.04	21.14	9 57 31.14	11.38
	*—24° 16′	13	54.5	56.6	58.0	8.3	9.4	10.7	12.1	13.1	24.0	25.3	27.5	2 10.86	— 0.04	21.14	10 1 49.68	11.44
	Weisse 94	14	54.1	56.4	57.7	7.4	8.6	9.7	11.0	12.0	21.7	23.0	25.0	7 9.75	+ 0.06	21.15	10 6 48.66	13.79
	Lacaille 4218	15	2.0	4.3	5.9	16.3	17.4	18.8	20.3	21.4	32.1	33.4	35.7	10 18.87	— 0.05	21.15	10 9 57.67	11.20
	*—3° 37′	16	26.4	28.4	29.5	39.1	40.2	41.2	42.4	43.5	53.2	54.4	56.5	13 41.35	+ 0.02	21.15	10 13 20.22	12.86
	*—23° 0′	17	. .	. .	. .	. .	. .	. .	4.2	6.9	8.1	9.5	11.6	16 8.06	— 36.57	21.15	10 15 10.34	11.63
	B. A. C. 3554	18	8.4	10.5	11.8	22.9	24.2	25.6	26.9	28.1	39.3	40.5	42.9	17 25.55	— 0.05	21.15	10 17 4.35	11.14
	Weisse (2) 412	19	33.9	35.9	37.2	47.0	48.2	49.4	50.7	51.8	2.0	3.3	5.3	21 49.52	+ 0.07	21.15	10 21 28.44	13.94
ρ	Leonis	20	50.3	52.3	53.7	3.2	4.4	5.5	6.7	7.7	. .	18.8	20.8	26 4.34	1.25	21.16	10 26 44.43	13.52
τ	Leonis	21	8.2	10.3	11.6	21.0	22.0	23.2	24.3	25.4	35.1	36.3	38.7	21 23.29	0.03	21.19	11 21 2.13	12.99
	B. A. C. 3917	22	. .	. .	. .	48.1	49.2	50.2	51.5	52.6	. .	. .	. .	24 50.32	+ 0.08	21.19	11 24 29.21	12.98
	Vesta	†23	. .	. .	. .	49.2	50.4	52.6	8.4	10.8	12.2	13.5	15.0	33 4.01	— 26.96	21.19	11 32 15.86	. .
	Weisse 643	24	. .	. .	. .	57.4	58.6	59.7	0.8	2.0	. .	. .	. .	37 59.70	+ 0.06	21.20	11 37 38.56	12.72
	Weisse 773	25	. .	. .	. .	42.9	43.9	45.2	46.3	47.4	. .	. .	. .	45 45.14	0.11	21.20	11 45 24.05	13.05
	Weisse 785	26	7.6	9.6	11.0	20.9	22.0	23.2	24.4	25.4	35.4	36.5	38.5	46 23.14	0.06	21.20	11 46 2.00	13.04
	Flora	†27	42.5	44.5	45.9	. .	. .	. .	. .	. .	. .	. .	. .	53 44.30	13.49	21.21	11 53 36.58	. .
	Weisse 980	28	48.2	49.4	50.7	51.9	54.3	. .	. .	. .	. .	. .	. .	57 50.90	33.70	21.21	11 58 3.39	12.92
o	Virginis	29	28.5	30.5	31.9	41.2	42.3	43.5	44.6	45.7	55.5	56.8	58.7	58 43.56	0.05	21.21	11 58 22.40	12.85
28	Sun I	†30	36.5	38.5	39.6	19.3	50.3	51.5	52.7	53.7	3.4	4.6	6.7	29 51.53	0.03	. .		. .
Y.	Sun II	31	45.3	47.2	48.6	58.0	59.0	0.2	1.3	2.4	12.3	13.3	15.4	31 0.27	0.03	. .		. .
29	Sun I	32	15.7	17.8	19.0	28.4	29.6	30.7	31.9	32.9	42.6	43.8	45.8	32 30.75	+ 0.04	. .		. .
Tr.	Sun II	33	24.5	.	27.6	37.4	38.3	39.4	40.6	41.7	51.3	52.6	54.6	34 40.80	— 1.27	. .		. .
	Polaris	34	. .	. .	. .	56.0	40.0	28.0	15.0	1.0	. .	. .	. .	9 28.00	+ 8.71	. .		. .
	Mercury I	35	55.5	57.5	58.8	8.3	9.5	10.7	12.0	13.2	22.7	23.9	26.0	16 10.74	0.05	. .		. .
	Venus I	36	47.1	49.2	50.5	0.8	2.0	3.2	4.5	5.5	16.2	17.4	19.7	5 3.28	+ 0.09	. .		. .
31	Pegasi	37	. .	. .	. .	9.3	10.6	12.8	28.2	30.5	31.7	33.1	34.7	38 23.86	— 26.28	23.76	21 37 33.82	14.27
	Andromedæ	38	31.7	33.9	35.3	46.2	47.4	48.7	50.0	51.2	2.0	3.4	5.8	1 48.69	+ 0.16	23.86	0 1 24.99	15.25
April 1	Sun I	39	11.6	13.4	14.7	24.3	25.2	26.4	27.5	28.7	38.3	39.5	41.8	43 26.40	0.05	23.88	0 43 2.57	. .
	Sun II	40	21.5	22.4	23.8	33.3	34.3	35.4	36.6	37.6	47.4	48.5	50.5	45 35.58	0.05	23.88	0 45 11.75	. .
	Polaris	41	. .	41.0	31.0	56.0	37.0	25.0	12.0	56.0	27.0	19.0	. .	9 27.11	11.37	23.90	1 9 14.58	121.97
	Mercury I	42	34.0	35.9	37.3	46.9	48.0	49.2	50.5	51.5	1.2	2.5	4.6	36 49.24	+ 0.08	23.90	1 36 25.42	0.20
α	Arietis	43	55.8	56.9	58.1	59.3	0.7	. .	31.1	33.5	35.1	36.4	37.9	0 16.48	— 18.10	23.94	1 59 34.44	16.53
α	Ceti	44	. .	. .	. .	35.4	36.5	37.6	38.8	39.9	. .	. .	. .	55 37.64	+ 0.09	23.97	2 55 13.76	15.38
	Venus I	45	10.7	12.8	14.3	24.5	25.6	27.0	28.3	29.6	40.1	41.3	43.5	11 27.06	0.14	23.98	3 11 3.22	1.40
α	Persei	46	43.3	46.3	48.2	2.9	4.3	6.2	8.0	9.8	24.6	26.4	29.6	15 6.33	0.33	23.99	3 14 42.67	20.61
α	Orionis	47	1.8	3.8	5.1	14.5	15.6	16.8	18.1	19.1	28.8	29.9	32.1	48 16.87	0.06	24.09	5 47 52.84	15.21
	Moon I	48	30.2	32.3	33.7	43.8	45.0	46.3	47.6	48.8	59.3	0.5	2.7	53 46.38	0.11	24.09	5 53 22.40	. .
η	Geminorum	49	52.9	54.9	56.3	6.4	7.5	8.9	10.2	11.4	21.9	23.1	25.3	7 8.98	+ 0.13	—24.10	6 6 45.01	+ 16.89

23. Through clouds.
27. Through clouds.
30. Faint, but steady.

March 31–April 1. By P. and P. S. P. n. = + 0.24.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 1, 7.6	— 24.16	— 0.040	+ 0.030

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1865.																		
April 1 Tr.	γ Geminorum	1	4.6	6.6	7.9	..	..	..	..	..	32.4	33.6	35.8	30 20.15	+ 0.06	—24.12	6 29 56.09	+ 16.02
	* — 37° 45′	2	51.9	54.5	56.2	8.1	9.3	10.8	12.4	13.7	26.0	27.5	29.9	48 10.94	— 0.15	24.25	9 47 46.54	10.06
	Weisse 1296	3	50.7	52.2	53.4	54.6	57.0	..	58.3	60.9	62.2	63.6	64.9	1 27.78	— 0.15	24.26	10 1 3.37	13.80
	α Leonis	4	21.9	23.8	25.2	34.9	35.9	37.2	38.4	39.4	49.4	50.6	52.7	1 37.22	+ 0.08	24.26	10 1 13.04	13.81
	* — 39° 58′	5	17.2	19.8	21.7	33.8	35.0	36.7	38.5	40.0	52.4	54.0	56.8	7 36.90	— 0.16	24.26	10 7 12.48	10.05
	* — 38° 36′	6	58.2	0.7	2.4	14.6	15.7	17.2	18.8	20.2	32.6	33.9	36.6	10 17.35	— 0.15	24.26	10 9 52.94	10.24
	* — 3° 34′	7	50.1	52.2	53.5	2.9	4.0	5.1	6.3	7.5	17.0	18.0	20.3	13 5.17	+ 0.02	24.26	10 12 40.93	12.90
	* — 3° 37′	8	29.5	31.3	32.6	42.1	43.1	44.3	45.5	46.5	56.2	57.5	59.4	13 44.36	+ 0.02	24.26	10 13 20.12	12.90
	Lalande 20114	9	18.2	20.4	21.8	31.9	33.2	34.4	35.5	36.7	47.4	48.5	50.8	16 34.44	— 0.07	24.27	10 16 10.10	11.68
	B. A. C. 3554	10	..	..	..	26.1	27.2	28.5	30.0	31.2	..	..	..	17 28.60	0.05	24.27	10 17 4.28	11.19
	O. Arg. S. 10594	11	47.6	49.6	51.1	2.0	3.1	4.4	5.9	7.2	18.2	19.7	21.9	18 4.61	— 0.10	24.27	10 17 40.24	11.20
	Weisse (2) 412	12	37.0	39.0	40.4	50.2	51.3	52.6	53.9	54.9	5.0	6.2	8.4	21 52.63	+ 0.11	24.27	10 21 28.47	13.99
	* + 17° 34′	13	29.5	31.5	33.1	42.8	43.8	45.1	46.4	47.5	57.6	58.6	0.8	25 45.15	0.11	24.27	10 25 20.99	13.94
	* — 35° 40′	14	9.2	10.8	12.4	13.8	17.0	..	..	..	..	..	..	29 12.64	40.71	24.28	10 28 29.07	10.79
	* — 35° 40′	15	42.8	45.1	46.9	58.6	59.8	1.2	2.8	..	15.4	17.1	19.5	30 0.92	+ 0.13	24.28	10 29 36.77	10.80
	* — 35° 39′	16	..	..	..	30.6	31.9	33.4	34.9	36.3	..	..	..	30 33.42	— 0.09	24.28	10 30 9.15	10.81
	* — 35° 46′	17	57.3	59.7	1.3	13.0	14.3	15.7	17.2	18.4	30.4	31.8	34.3	36 15.76	0.14	24.28	10 35 51.34	10.87
	* — 35° 49′	18	57.2	59.5	1.2	12.8	14.1	15.5	17.1	18.4	30.3	31.8	34.2	37 15.65	— 0.14	24.28	10 36 51.23	10.88
	ι Leonis	19	20.9	22.9	24.3	33.8	34.9	36.2	37.4	38.4	48.1	49.4	51.5	42 36.16	+ 0.08	24.28	10 42 11.96	13.52
	Dorpat 1482, (1st *)	20	57.7	59.1	0.4	1.5	3.8	..	5.2	7.6	8.8	10.1	11.6	45 34.58	— 0.17	24.29	10 45 10.12	13.34
	Dorpat 1482, (2d *)	21	19.7	21.7	22.9	32.3	33.6	34.6	35.9	37.0	46.6	47.8	50.0	45 34.74	+ 0.06	24.29	10 45 10.51	13.34
	* + 8° 9′	22	..	..	..	..	..	..	25.4	27.7	29.1	30.4	31.7	46 28.86	— 33.93	24.29	10 45 30.64	13.34
	* — 27° 45′	23	46.7	49.	0.4	1.1	2.2	3.5	4.9	6.2	17.0	18.3	20.7	51 3.64	0.09	24.29	10 50 39.26	11.64
	* — 22° 32′	24	..	..	..	26.3	27.5	28.7	30.0	31.2	..	..	..	52 28.74	— 0.02	24.29	10 52 4.43	11.95
	Weisse 1044	25	56.3	58.4	59.7	9.4	10.4	11.6	12.7	13.9	23.8	25.0	27.1	59 11.66	+ 0.09	24.30	10 58 47.45	13.43
	Weisse 261	26	28.5	30.4	31.7	41.1	42.1	43.2	44.4	45.6	55.2	56.4	58.5	16 43.37	+ 0.05	24.31	11 16 19.11	13.03
	Dorpat 1540, (1st *)	27	46.0	47.3	48.5	49.6	52.2	..	52.1	54.5	55.8	57.1	58.6	20 22.37	— 0.19	24.31	11 19 57.87	13.01
	Dorpat 1540, (2d *)	28	8.1	9.9	11.2	20.7	21.7	22.9	24.1	25.1	34.8	36.0	37.9	20 22.95	+ 0.05	24.31	11 19 58.69	13.01
	Vesta	29	24.2	26.0	27.4	37.3	38.3	39.6	40.8	41.9	52.0	53.2	55.3	28 39.64	0.10	24.31	11 28 15.43	..
	Weisse 553	30	33.2	35.1	36.5	45.8	46.8	48.0	49.2	50.2	59.8	1.1	3.2	32 48.08	0.04	24.32	11 32 23.80	12.92
	B. A. C. 3962	31	40.5	42.5	43.8	53.4	54.4	55.5	56.7	57.9	7.3	8.6	10.6	33 55.56	0.04	24.32	11 33 31.28	12.93
	Weisse 597	32	58.5	0.4	1.7	11.2	12.3	13.4	14.6	15.6	25.3	26.5	28.5	35 13.45	0.04	24.32	11 34 49.17	12.91
	Weisse 605	33	..	..	..	37.8	38.9	40.0	41.1	42.2	..	..	..	35 40.00	0.09	24.32	11 35 15.77	12.91
	* + 15° 20′	34	41.3	43.3	44.8	54.5	55.5	56.7	58.0	59.2	9.1	10.3	12.5	40 56.84	+ 0.10	24.32	11 40 32.62	13.11
	Weisse 812	35	51.2	52.5	53.7	55.0	57.6	..	59.9	2.3	3.6	4.8	6.2	42 28.68	— 0.14	24.32	11 42 4.22	13.09
	β Leonis	36	21.5	23.6	25.0	34.7	35.7	37.0	38.2	39.4	49.3	50.6	52.7	42 37.06	+ 0.10	24.32	11 42 13.84	12.91
	* + 11° 5′	37	36.1	37.5	38.8	40.1	..	..	..	45.8	47.2	48.4	49.7	49 12.95	— 0.16	24.33	11 48 48.46	12.99
	Flora	38	11.3	12.3	14.6	24.2	25.3	26.5	27.5	28.7	38.8	39.9	41.6	49 26.42	+ 0.08	24.33	11 49 2.17	..
	Lacaille 4976	39	40.7	42.9	44.4	55.6	57.1	58.5	59.9	1.2	12.7	14.2	16.5	54 58.52	— 0.12	24.33	11 54 34.07	12.19
	o Virginis	40	31.5	33.5	34.7	44.3	45.4	46.6	47.9	48.9	58.6	59.7	1.8	58 46.63	+ 0.07	24.33	11 58 22.37	12.84
	Dorpat 1604, (1st *)	41	20.0	21.4	22.6	23.9	26.4	..	27.5	30.0	31.2	38.5	33.9	2 56.94	— 0.26	24.34	12 2 32.34	12.73
	Dorpat 1604, (2d *)	42	44.7	46.7	48.1	57.7	58.7	59.9	1.1	2.2	12.1	13.3	15.3	2 59.98	0.02	24.34	12 2 35.62	12.73
	Lacaille 5065	43	..	..	..	7.7	8.5	10.9	30.1	33.3	34.9	36.5	38.3	7 24.90	— 33.22	24.34	12 6 27.34	12.25
	Weisse 177	44	30.6	32.6	33.8	43.3	44.4	45.5	46.8	47.9	57.4	58.5	0.6	12 45.58	+ 0.03	24.34	12 12 21.27	12.83
	η Virginis	45	12.0	13.8	15.2	24.5	25.5	26.9	28.0	29.1	38.7	39.9	41.9	13 26.86	+ 0.03	24.34	12 13 2.55	12.80
	O. Arg. S. 12124	46	30.5	32.7	34.2	44.5	45.7	47.1	48.4	49.6	0.3	1.5	3.9	16 47.13	— 0.09	24.35	12 16 22.69	12.66
	Hebe	47	8.5	10.5	12.1	21.7	22.8	24.1	25.4	26.4	36.3	37.5	39.8	23 24.10	+ 0.10	24.35	12 22 59.85	..
	Polaris, S. P.	48	..	..	..	18.0	4.0	52.0	43.0	22.0	..	..	..	9 51.80	— 12.84	24.38	1 9 14.58	121.98
	α Virginis	49	16.9	18.7	20.2	29.8	30.9	32.1	33.3	34.5	44.1	45.5	47.6	18 32.15	0.01	24.39	13 18 7.75	13.05
	Ausonia	50	46.2	48.3	49.7	59.3	0.5	1.7	2.9	4.0	14.1	15.4	17.3	24 1.76	— 0.04	24.39	13 23 37.33	..
	ζ Virginis	51	0.9	2.8	4.2	13.5	14.5	15.7	17.0	18.1	27.4	28.7	30.8	28 15.78	+ 0.03	—24.40	13 27 51.41	+ 12.72

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 1,	7.6 — 24.16	— 0.040	+ 0.030

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 2	μ Geminorum . . .	1	57.8	59.8	1.2	10.3	12.5	13.8	15.1	16.2	26.7	28.0	30.1	15 13.78	+ 0.13	—25.06	6 14 48.85	+ 16.88
E.	γ Geminorum . . .	2	5.4	7.5	8.9	18.8	19.8	21.1	22.3	23.4	33.5	34.6	36.6	30 21.08	+ 0.10	25.07	6 29 56.11	16.04
	Moon I	3	23.3	24.4	25.7	26.9	28.0	. .	58.2	0.7	2.0	3.5	4.9	50 43.76	— 17.91	25.08	6 50 0.77	. .
	ϵ Canis Majoris . .	4	28.5	30.7	32.1	43.0	44.2	45.4	46.7	48.0	59.1	0.3	2.7	53 45.52	— 0.10	25.09	6 53 20.33	10.74
	λ Geminorum . . .	5	31.0	33.0	34.3	44.1	45.3	46.5	47.7	48.9	59.0	0.2	2.3	10 46.57	+ 0.10	25.10	7 10 21.57	15.79
3	Sun I	6	30.3	32.5	33.7	43.3	44.4	45.7	46.8	48.0	57.4	58.7	0.6	50 45.58				
	Sun II	7	39.1	41.2	42.5	52.3	53.5	54.6	55.8	56.9	6.3	7.4	9.5	52 54.46				
4	Sun I	8	10.0	12.0	13.3	22.8	24.0	25.2	26.4	27.4	36.9	38 2	40.2	54 25.13	— 0.06			
Y.	Sun II	9	. .	. .	. .	. .	. .	. .	4.3	6.6	7.9	9.0	10.4	57 7.54	33.51			
	Polaris	10	. .	. .	. .	13.0	57.0	44.5	33.0	12.0	. .	. .	. .	9 43.90	2.28			122.09
5	α Hydræ	11	12.2	14.3	15.6	25.1	26.2	27.4	28.6	29.6	39.1	40.4	42.4	21 27.35	0.08	28.00		12.74
Tr.	Moon I	12	41.6	43.6	44.8	54.9	56.0	57.2	58.4	59.5	9.3	10.5	12.6	24 57.13	0.06	28.00	9 24 29.07	. .
	ϵ Leonis	13	24.6	26.8	28.2	38.7	40.0	41.2	42.5	43.7	54.1	55.3	57.6	38 41.15	0.05	28.00		. .
6	83 Cancri	14	40.8	43.0	44.4	54.4	55.5	56.8	58.0	59.1	9.0	11.4	12.5	11 56.81	0.05	28.19	9 11 28.57	14.81
Y.	ω Leonis	15	28.4	30.6	31.8	41.5	42.6	43.9	45.0	46.0	55.7	56.8	58.9	21 43.75	0.06	28.19	9 21 15.50	14.10
	k Leonis	16	58.2	0.3	1.5	11.3	12.3	13.5	14.7	15.8	25.3	26.7	28.7	25 13.48	0.06	28.19	9 24 45.23	14.12
	10 Leonis	17	19.9	22.0	23.3	32.9	34.1	35.3	36.5	37.5	47.0	48.2	50.3	30 35.18	0.06	28.19	9 30 6.93	13.87
	o Leonis	18	11.5	13.7	14.9	24.8	25.8	27.0	28.2	29.2	38.8	40.1	42.1	34 26.93	0.06	28.19	9 33 58.68	14.06
	B A. C. 3336 . .	19	17.8	19.9	21.1	30.7	31.8	33.0	34.2	35.1	44.7	46.0	48.0	39 32.94	0.06	28.19	9 39 4.69	13.80
	Weisse 929 . . .	20	45.3	47.4	48.5	58.6	59.6	0.9	2.1	3.2	12.9	14.3	16.3	44 0.83	0.06	28.19	9 43 32.58	14.26
	Rumker 2988 . .	21	42.2	44.3	45.6	55.6	56.6	57.9	59.1	0.2	9.9	11.2	13.4	46 57.82	0.06	28.20	9 46 29.56	14.28
	π Leonis	22	19.8	22.0	23.1	32.9	33.9	35.1	36.3	37.4	46.9	48.2	50.2	53 35.07	0.06	28.20	9 53 6.81	13.77
	* + 13° 13′ . . .	23	28.9	30.9	32.1	42.0	43.0	44.3	45.5	46.5	56.3	57.5	59.5	58 44.23	0.06	28.20	9 58 15.97	14.02
	* + 12° 56′ . .	24	23.8	25.9	27.1	36.9	38.0	39.3	40.5	41.5	51.2	52.4	54.5	2 39.19	0.06	28.20	10 2 10.93	13.96
	* + 12° 57′ . .	25	11.8	13.8	15.2	25.0	26.1	27.3	28.5	29.5	39.4	40.6	42.6	3 27.25	— 0.06	28.20	10 2 58.99	13.96
	Weisse 94 . . .	26	39.3	40.7	42.0	43.3	45.8	. .	47.3	49.4	50.7	52.1	53.4	7 16.40	+ 0.17	28.20	10 6 48.37	13.89
	Weisse 96 . . .	27	51.2	52.4	53.8	55.0	57.5	. .	59.1	1.5	2.7	4.0	5.3	7 28.25	+ 0.17	28.20	10 7 0.22	13.89
	Moon I	†28	10.7	12.8	14.0	23.6	25.0	26.2	27.3	28.4	38.1	39.4	41.3	12 26.09	— 0.06	28.20	10 11 57.83	. .
	43 Leonis	29	11.8	13.9	15.1	24.7	25.8	27.0	28.2	29.3	38.8	40.1	42.0	16 26.97	0.06	28.20	10 15 58.71	13.53
	Weisse (2) 412 . .	30	40.6	42.8	44.0	54.1	55.3	56.5	57.8	58.9	8.8	10.1	12.2	21 56.46	0.05	28.21	10 21 28.20	14.04
	Rumker 3209 . .	31	41.8	43.9	45.3	55.3	56.4	57.6	58.9	0.0	9.9	11.2	13.4	22 57.63	0.05	28.21	10 22 29.37	14.02
	ρ Leonis	32	57.2	59.5	0.6	10.3	11.5	12.6	13.9	14.8	24.5	25.7	27.8	26 12.58	0.06	28.21	10 25 44.31	13.60
	* + 5° 0′ . . .	33	40.1	42.2	43.4	53.0	54.0	55.2	56.4	57.5	7.0	8.2	10.2	36 55.20	0.07	28.21	10 36 26.92	13.29
	* + 4° 56′ . . .	34	. .	. .	. .	18.3	19.6	21.6	36.6	39.0	40.1	41.3	42.6	37 32.39	25.87	28.21	10 36 38.31	13.29
	Weisse 664 . . .	35	15.6	17.6	18.8	28.6	29.6	30.8	31.9	33.0	42.5	43.7	45.8	38 30.72	0.07	28.21	10 38 2.44	13.29
	Σ Cat. Gen. 1248 .	36	57.7	59.8	1.1	11.9	12.9	14.2	15.6	16.7	27.0	28.4	30.7	44 14.18	0.05	28.21	10 43 45.92	14.10
	Dorpat 1482, (1st *)	37	. .	. .	. .	. .	. .	. .	8.3	10.7	11.8	13.2	14.4	46 11.68	33.59	28.21	10 45 9.88	13.38
	Dorpat 1482, (2d *)	38	. .	. .	. .	36.7	37.7	38.8	40.0	40.9	50.6	51.8	53.7	45 43.75	— 5.10	28.21	10 45 10.44	13.38
	Dorpat 1487, (1st *)	39	8.1	9.6	10.9	12.3	15.0	. .	21.6	24.2	25.5	26.8	28.2	48 48.22	+ 0.21	28.21	10 48 20.22	14.04
	Dorpat 1487, (2d *)	40	32.2	34.5	36.0	46.6	47.7	49.0	50.3	51.5	1.9	3.3	5.5	48 48.95	— 0.05	28.21	10 48 20.69	14.04
	α Ursæ Majoris . .	41	20.9	25.2	27.7	48.7	51.0	53.3	56.0	58.2	18.6	21.4	25.6	55 53.33	0.04	28.22	10 55 25.07	15.87
	O. Arg. N. 11496 .	42	. .	. .	. .	1.6	3.7	6.0	8.4	10.5	. .	. .	. .	3 6.04	0.13	28.22	11 2 37.69	15.31
	O. Arg. N. 11518 .	43	42.4	46.4	48.8	8.0	9.9	12.4	14.6	16.8	35.4	37.9	41.8	4 12.22	0.04	28.22	11 3 43.96	15.31
	O. Arg. N. 11584 .	44	40.8	45.0	47.3	5.9	7.9	10.2	12.6	14.5	32.7	35.2	39.1	8 10.11	0.04	28.22	11 7 41.85	15.07
	Weisse 234 . . .	45	4.7	6.9	7.9	17.6	18.6	19.8	21.0	22.0	31.4	32.6	34.7	18 19.75	0.07	28.22	11 17 51.46	13.02
	Dorpat 1540, (1st *)	46	. .	. .	. .	37.8	39.0	41.0	56.0	58.3	59.5	0.7	2.0	20 51.79	25.82	28.22	11 19 57.75	13.03
	Dorpat 1540, (2d *)	47	. .	. .	.	24.8	25.9	27.1	28.2	29.2	. .	. .	. .	20 27.04	0.12	28.22	11 19 58.70	13.03
	Vesta	48	57.5	59.6	0.8	10.8	11.9	13.0	14.2	15.3	25.3	26.6	28.7	25 13.06	0.05	28.22	11 24 44.79	. .
	v Leonis	49	18.0	20.1	21.3	30.8	31.9	33.1	34.3	35.3	44.8	46.0	48.0	30 33.06	— 0.07	—28.23	11 30 4.76	+ 12.90

28. Steady.

April 2, 0h. Image east 0.07. Clamp east.
Image west 0.20. Clamp west.

April 2, n. = + 0.24.
3–6, + 0.06.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	ϵ.	
	h.	s.	s.	s.
April	2, 6.5	— 25.07	— 0.040	+ 0.030
	5, 9.4	28.00	0.008	— 0.070
	6, 10.6	— 28.21	— 0.017	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 6	B. A. C. 3962	1	44.6	46.6	47.8	57.4	58.4	59.6	0.8	1.8	11.3	12.6	14.5	33 59.58	— 0.07	—28.23	11 33 31.28	+ 12.93
Y.	Weisse 592	2	48.3	50.4	51.4	1.1	2.1	3.3	4.6	5.6	15.1	16.3	18.2	35 3.31	0.07	28.23	11 34 35.01	12.93
	Weisse 597	3	..	..	..	29.1	30.4	32.3	47.3	49.5	50.8	52.1	53.4	35 43.11	25.78	28.23	11 34 49.10	12.93
	o Virginis	4	35.4	37.6	38.7	48.4	49.5	50.7	51.9	52.9	2.6	3.8	5.7	58 50.65	0.06	28.23	11 58 22.36	12.85
7	*l* Leonis	5	25.2	27.3	28.6	38.5	39.6	40.7	42.0	43.0	52.6	53.9	55.9	42 40.66	0.06	28.82		13.56
E.	Moon I	6	37.4	39.3	40.5	50.5	51.5	52.7	53.9	55.0	4.6	5.8	7.8	58 52.64	0.08	28.83	10 58 23.73	
	ϕ Leonis	7	4.3	6.3	7.4	17.2	18.2	19.3	20.4	21.5	31.0	32.2	34.3	10 19.28	0.08	28.83	11 9 50.37	12.87
	Vesta	8	20.0	22.3	23.5	33.5	34.7	35.8	37.2	38.2	48.0	49.2	51.4	24 35.80	0.06	28.84	11 24 6.90	
	v Leonis	†9	18.5	20.6	21.9	31.5	32.5	33.6	34.9	35.9	45.3	46.6	48.6	30 33.63	0.05	28.84		12.90
Tr.	α Pegasi	†10	16.2	18.2	19.6	29.4	30.6	31.9	33.2	34.3	43.8	45.2	47.2	58 31.78	0.06	29.11		14.55
8	Sun I	11	48.5	50.8	51.8	1.4	2.6	3.7	4.9	5.9	15.6	16.7	18.8	9 3.70	— 0.07	29.19	1 8 34.44	
	Polaris	12	31.0	53.0	40.0	..	..	..	..	..	40.0	33.0	52.0	9 41.50	+ 1.97	29.19	1 9 14.28	122.26
	Sun II	13	8.1	10.0	11.2	10.9	12.2	13.4	14.4	15.6	25.2	26.4	28.5	11 13.27	— 0.07	29.19	1 10 44.01	
	Mercury I	14	27.6	29.7	31.0	41.0	42.2	43.4	44.6	45.8	55.4	56.9	59.0	18 43.42	0.06	29.23	2 18 14.13	0.24
	Venus I	15	..	..	..	40.0	41.2	42.4	43.7	45.0	55.3	56.8	59.0	22 47.93	5.54	29.28	3 22 13.11	1.58
	α Hydræ	16	13.6	15.7	16.8	26.6	27.6	28.8	30.0	31.1	40.5	41.8	43.9	21 28.76	0.09	29.50	9 20 59.17	12.78
	* — 29° 39′	17	28.9	30.9	32.2	43.7	44.8	46.0	47.4	48.7	59.6	1.0	3.2	41 46.04	0.14	29.51	9 41 16.39	10.99
	μ Leonis	18	19.6	21.8	23.2	34.1	35.2	36.6	37.9	38.9	49.5	50.9	53.2	45 36.45	0.04	29.52	9 45 6.89	15.01
	π Leonis	19	21.2	23.2	24.4	34.2	35.3	36.5	37.6	38.7	48.3	49.6	51.6	53 36.42	0.07	29.52	9 53 6.83	13.80
	O. Arg. S. 10324	20	44.8	46.4	47.8	58.4	59.5	0.7	2.1	3.2	13.4	14.9	17.1	58 0.74	0.13	29.53	9 57 31.08	11.53
	α Leonis	21	27.2	29.2	30.3	40.3	41.4	42.5	43.7	44.8	54.7	55.9	57.9	1 42.54	0.06	29.53	10 1 12.95	13.89
	* — 38° 36′	22	38.3	40.6	42.3	54.7	56.2	57.5	59.1	0.6	12.5	14.3	16.7	8 57.53	0.17	29.53	10 8 27.83	10.33
	* — 3° 37′	23	34.8	36.6	37.9	47.5	48.5	49.7	50.9	52.0	1.4	2.7	4.8	13 49.71	0.09	29.54	10 13 20.08	12.97
	Weisse (2) 412	24	42.2	44.2	46.5	55.6	56.7	58.0	59.3	0.3	10.1	11.5	13.6	21 58.00	0.05	29.54	10 21 28.41	14.06
	Rumker 3209	25	43.2	45.3	46.6	56.8	57.7	59.0	0.3	1.2	11.2	12.6	14.6	22 58.95	0.05	29.54	10 22 29.36	14.04
	* + 17° 30′	26	23.2	25.3	26.9	36.7	37.8	38.9	40.4	41.5	51.3	52.6	54.8	26 39.05	0.05	29.54	10 26 9.46	13.99
	50 Leonis	27	56.0	58.1	59.4	9.4	10.5	11.8	12.9	14.2	24.1	25.4	27.4	32 11.75	0.06	29.55	10 31 42.14	13.90
	l Leonis	28	26.3	28.3	29.4	39.2	40.2	41.4	42.7	43.7	53.3	54.7	56.7	42 41.45	— 0.06	29.55	10 42 11.84	13.57
	Dorpat 1487, (1st *)	29	9.5	11.0	12.4	13.7	16.4	..	22.8	25.4	26.6	28.2	29.7	48 49.57	+ 0.21	29.56	10 48 20.22	14.06
	Dorpat 1487, (2d *)	30	33.6	35.8	37.2	47.8	49.1	50.4	..	52.9	3.2	4.7	6.9	48 50.16	0.09	29.56	10 48 20.69	14.05
	p^2 Leonis	†31	58.9	0.9	1.9	..	..	..	..	..	..	..	..	57 0.57	+ 13.21	29.56	10 56 44.22	13.04
	δ Leonis	32	11.4	13.5	15.0	25.1	26.3	27.6	28.9	30.0	39.9	41.2	43.3	7 27.48	— 0.05	29.57	11 6 57.86	13.68
	Vesta	33	44.6	46.5	47.7	57.8	58.8	0.0	1.3	2.5	12.1	13.6	15.6	24 0.05	0.06	29.58	11 23 30.41	
	v Leonis	34	19.4	21.2	22.4	32.2	33.2	34.4	35.6	36.5	45.8	47.3	49.0	30 34.28	0.08	29.58	11 30 4.62	12.91
	B. A. C. 3962	35	45.8	47.8	49.1	58.6	59.6	0.8	2.2	3.1	12.4	13.8	15.9	34 0.90	0.08	29.59	11 33 31.23	12.94
	Weisse 624	36	42.3	44.3	45.6	55.2	56.2	57.4	58.7	59.6	9.0	10.3	12.2	36 57.35	0.08	29.59	11 36 27.68	12.92
	Weisse 680	37	43.0	45.1	46.3	56.0	57.1	58.3	59.5	0.4	9.9	11.2	13.2	39 58.19	0.08	29.59	11 39 28.52	12.85
	Moon I	†38	40.5	42.6	43.9	..	..	..	..	..	8.0	9.2	11.2	44 55.90	0.04	29.59	11 44 26.27	
	η Virginis	39	17.2	19.2	20.4	29.9	31.1	32.2	33.4	34.4	43.9	45.2	47.1	13 32.18	— 0.08	29.61	12 13 2.49	12.80
	Polaris, S. P.	†40	..	17.0	5.0	..	27.0	..	..	..	..	..	..	47 36.33	+22 7.43	29.63	1 9 14.13	122.24
12	Polaris	41	..	..	..	..	..	..	..	..	43.0	35.0	56.0	18 44.67	— 8 58.67	33.13	1 9 12.87	121.51
Y.																		
13	Sun I	42	13.5	15.7	16.8	26.5	27.7	28.9	30.1	31.1	40.7	41.8	43.9	27 28.80	0.08	33.14	1 26 55.58	
	Sun II	43	23.4	25.4	26.6	36.4	37.5	38.7	39.8	40.9	50.5	51.7	53.8	29 38.60	0.08	33.14	1 29 5.38	
	α Tauri	44	28.8	31.0	32.3	..	..	..	..	..	56.7	58.0	0.1	28 44.48	0.04	33.20	4 28 11.24	16.58
	β Tauri	45	2.6	4.9	6.3	17.2	18.4	19.7	21.2	22.4	33.0	34.5	36.8	18 19.73	0.07	33.21	5 17 46.45	18.05
	δ Orionis	46	25.6	27.6	28.8	38.5	39.5	40.6	41.9	43.0	52.3	53.7	55.6	25 40.65	0.09	33.22	5 25 7.34	14.67
	ϵ Orionis	47	40.8	42.8	44.0	53.7	54.8	56.0	57.2	58.2	7.5	8.8	10.8	29 55.87	0.09	33.22	5 29 22.56	14.56
	Lacaille 4196	48	45.0	47.4	48.8	0.3	1.5	2.9	4.4	5.4	16.8	18.1	20.5	8 2.83	0.15	33.31	10 7 29.37	11.02
	γ Leonis	49	51.0	53.2	54.4	4.7	5.7	7.0	8.2	9.4	19.4	20.8	22.9	13 6.97	— 0.07	—33.31	10 12 33.59	+ 14.47

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
h.	s.	s.	s.
April 7, 11.1	— 28.83	— 0.028	— 0.08
8, 9.3	— 29.50	— 0.038	

9. Through haze.
10. Very faint.
31. Observation interrupted by clouds.
38. Clouds.
40. Clouds.

s.
April 7–8, n. = +0.09.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1865. April 13 Y.	B. A. C. 3554	†1	20.3	22.7	23.8	35.2	36.4	37.7	39.0	40.3	51.1	52.5	54.0	17 37 55	— 0.14	—33.31	10 17 4.10	+ 11.35
	O. Arg. S. 11320	2	7.8	10.1	11.4	22.2	23.4	24.7	25.9	27.0	30.6	38.9	41.2	14 24.83	0.13	33.33	11 13 51.37	12.08
	Vesta	3	9.0	11.2	12.4	22.4	23.5	24.8	26.0	27.1	37.0	38.1	40.2	21 24.70	0.08	33.33	11 20 51.29	. .
	Weisse 403	4	19.3	21.4	22.7	32.4	33.5	34.6	35.9	36.8	46.3	47.6	49.6	24 34.56	0.10	33.34	11 24 1.12	12.81
	ν Leonis	5	22.9	25.1	26.2	35.8	36.8	38.1	39.3	40.4	49.8	51.0	52.9	30 38.03	0.09	33.34	11 30 4.60	12.94
	Carrington 1741	6	. .	. .	. .	59.0	5.3	13.8	21.6	28.0	. .	. .	. .	34 13.54	0.51	33.34	11 33 39.69	14.83
	Flora	7	9.6	11.8	12.9	22.9	23.9	25.0	26.3	27.4	37.0	38.7	40.3	40 25.07	0.08	33.34	11 39 51.65	. .
	* — 37° 33′	8	16.9	19.5	21.0	33.2	34.5	35.9	37.5	38.8	50.8	52.3	54.8	46 35.93	0.16	33.34	11 46 2.43	11.94
	O. Arg. S. 11876	9	57.4	0.0	1.3	12.4	13.7	14.9	16.4	17.6	28.5	29.9	32.2	58 14.94	0.14	33.35	11 57 41.45	12.36
	O. Arg. S. 11917	10	58.6	1.0	2.4	13.7	14.9	16.3	17.6	18.9	29.8	31.1	33.5	1 16.17	0.14	33.35	12 0 42.68	12.39
	Weisse 34	11	28.8	30.9	32.1	41.9	43.0	44.1	45.3	46.3	56.0	57.3	59.2	4 44.08	0.08	33.35	12 4 10.65	12.90
	Hebe	12	50.8	53.5	54.6	4.6	5.6	6.8	8.1	9.2	19.2	20.3	22.2	14 6.81	0.08	33.35	12 13 33.38	. .
	* + 14° 28′	13	38.7	40.7	41.9	51.9	53.1	54.0	55.5	56.6	6.3	7.4	9.6	39 54.15	0.08	33.36	12 39 20.71	12.60
	Lalande 23832	14	38.5	40.2	41.7	51.7	52.7	54.0	55.2	56.3	6.0	7.3	9.3	40 53.90	0.08	33.36	12 40 20.46	12.60
	B. A. C. 4299	15	48.9	51.1	52.3	2.3	3.4	4.5	5.7	6.8	16.5	17.9	19.8	42 4.47	0.08	33.36	12 41 31.03	12.59
	Lacaille 5326	16	33.7	36.2	37.4	48.5	49.6	51.1	52.5	53.6	4.5	5.9	8.2	48 51.02	0.14	33.36	12 48 17.52	13.02
	Weisse 857	17	11.9	14.0	15.2	25.2	26.3	27.4	28.6	29.7	39.5	40.7	42.8	51 27.39	0.11	33.36	12 50 53.92	12.94
	θ Virginis	18	18.9	20.9	22.2	31.7	32.8	34.0	35.2	36.2	45.7	46.9	48.9	3 33.95	0.10	33.37	13 3 0.48	12.82
	Weisse 81	19	44.8	46.8	47.9	57.6	58.6	59.8	0.9	2.0	11.5	12.8	14.7	6 59.76	0.09	33.37	13 6 26.30	12.81
	Polaris, S. P.	20	. .	. .	. .	. .	. .	. .	. .	. .	46.5	35.0	55.0	18 45.50	8 59.32	33.37	1 9 12.81	121.37
	Weisse 354	21	. .	. .	. .	14.7	15.8	16.9	18.1	19.1	28.6	29.8	31.7	23 21.84	5.08	33.38	13 22 43.38	12.66
	* — 31° 40′	22	26.4	28.9	30.2	41.6	42.7	44.2	45.6	46.8	57.9	59.4	1.6	28 44.12	0.14	33.38	13 28 10.60	13.63
	* — 26° 27′	23	40.8	43.2	44.6	55.5	56.5	57.7	59.0	0.2	10.8	12.1	14.3	32 57.70	0.13	33.38	13 32 24.19	13.54
	O. Arg. S. 13085	24	40.0	42.3	43.5	54.6	55.8	57.2	58.4	59.8	10.3	11.8	14.1	36 57.07	— 0.13	33.38	13 36 23.56	13.64
	Saturn I	25	1.4	2.7	3.9	5.2	7.5	. .	8.3	10.5	11.8	13.1	14.3	45 37.87	+ 0.13	33.38	13 45 4.62	. .
	Saturn II	26	24.2	26.2	27.4	37.1	38.3	39.4	40.5	41.6	51.2	52.3	54.3	45 39.32	— 0.10	33.38	13 45 5.84	. .
	η Bootis	27	35.3	37.5	38.7	49.0	50.1	51.4	52.6	53.7	3.5	5.1	7.1	48 51.28	0.07	33.38	13 48 17.83	11.83
	ι Libræ	28	52.5	54.4	55.7	5.9	7.1	8.4	9.6	10.7	20.7	22.0	23.9	5 8.26	0.12	33.41	15 4 34.73	14.15
	β Libræ	29	5.5	7.7	8.9	18.8	19.8	21.0	22.2	23.3	32.9	34.0	36.0	10 20.92	0.10	33.41	15 9 47.41	13.40
	Lacaille 6344	30	20.4	22.6	24.1	35.6	36.8	38.3	39.7	41.0	52.5	53.8	56.1	14 38.26	0.15	33.41	15 14 4.70	15.40
	Lacaille 6368	31	34.5	37.2	38.6	51.3	52.6	54.0	55.6	56.9	9.3	10.8	13.4	17 54.02	0.17	33.41	15 17 20.44	16.00
	ζ^1 Libræ	32	59.3	. .	2.5	12.8	13.8	15.1	16.2	17.4	27.3	28.5	30.5	21 16.34	1.47	33.41	15 20 41.46	14.05
	Lacaille 6415	33	25.7	28.0	29.6	42.3	43.7	45.2	46.8	48.1	0.6	1.9	4.4	25 45.12	0.17	33.42	15 25 11.53	16.17
	Lacaille 6447	34	58.6	1.0	2.5	15.0	16.3	18.0	19.5	20.7	32.7	34.4	37.0	30 17.78	— 0.16	33.42	15 29 44.20	16.15
	Lacaille 6448	35	40.4	41.9	43.5	45.1	48.2	. .	5.1	8.3	9.7	11.1	12.9	30 26.62	+ 0.13	33.42	15 29 53.33	16.15
	Lacaille 6499	36	58.3	0.6	2.0	13.2	14.5	15.7	17.2	18.4	29.4	30.8	33.2	36 15.75	— 0.14	33.42	15 35 42.19	15.47
	Moon II	37	37.7	40.0	41.2	51.7	52.9	54.1	55.4	56.6	6.7	8.2	10.1	50 54.04	0.12	33.42	15 50 20.50	. .
	δ Scorpii	38	41.5	43.7	45.0	55.3	56.5	57.7	59.1	0.2	10.5	11.9	14.0	52 57.76	0.12	33.43	15 52 24.22	14.83
	β Scorpii	39	55.9	58.0	59.3	9.6	10.6	11.9	13.1	14.3	24.2	25.7	27.7	58 11.85	0.12	33.43	15 57 38.30	14.61
	O. Arg. S. 15240	40	49.7	52.0	53.2	3.5	4.6	5.8	7.1	8.2	18.3	19.7	21.6	0 5.79	— 0.12	33.43	15 59 32.24	14.74
	O. Arg. S. 15242	41	29.0	30.3	31.6	33.0	35.5	. .	39.7	42.2	43.4	44.8	46.1	0 7.56	+ 0.12	33.43	15 59 34.25	14.73
	ν Scorpii, (1st *)	42	5.5	6.7	8.3	9.6	12.4	. .	15.9	18.4	19.7	21.0	22.4	4 43.99	+ 0.12	33.43	16 4 10.68	14.65
	ν Scorpii, (2d *)	43	29.5	31.6	32.8	43.0	44.2	45.6	46.9	48.0	57.9	59.1	1.3	4 45.45	— 0.12	33.43	16 4 11.90	14.65
Tr.	α Andromedæ	44	41.9	44.0	45.4	56.4	57.6	59.1	0.5	1.7	12.2	13.6	16.0	1 58.95	0.07	33.73		15.08
	Polaris	45	41.0	3.0	51.0	24.0	7.0	55.0	43.0	25.0	48.0	40.0	57.0	9 57.64	1.22	33.79	1 9 12.63	121.23
14	Sun I	46	55.6	57.5	58.8	8.4	9.5	10.7	12.2	13.2	22.5	23.8	25.9	31 10.74	0.07	33.81	1 30 36.86	. .
	Sun II	47	5.3	7.2	8.5	18.3	19.5	20.6	21.9	22.9	32.6	33.8	35.8	33 20.58	0.07	33.81	1 32 46.70	. .
	Mercury I	48	. .	. .	. .	33.9	35.0	36.4	37.6	38.6	48.5	49.7	51.9	43 41.45	5.33	33.86	2 43 2.26	0.28
	Venus I	49	58.6	1.1	2.4	12.8	14.2	15.4	16.6	17.9	28.3	29.6	32.0	27 15.35	0.04	33.90	3 26 41.41	1.74
	α Tauri	50	29.5	31.6	32.9	43.0	44.1	45.3	46.5	47.9	57.6	58.8	0.9	28 45.28	— 0.06	—33.95		+ 16.59

1. Blurred.

April 13, n. = + 0.06.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	
April 13,	10.6	— 33.32	— 0.020	— 0.09
	14, 2.2	33.84	0.048	
	14, 5.4	33.97	0.048	
	11.9	— 34.29	— 0.048	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 14	β Tauri	1	3.2	5.6	7.0	17.8	19.0	20.4	21.8	22.9	33.6	35.2	37.5	18 20.36	— 0.04	—33.97	5 17 46.35	+ 15.06
Y.	δ Orionis	2	26.3	28.4	29.6	39.1	40.2	41.4	42.5	43.6	53.6	54.3	56.3	25 41.34	0.09	33.97	5 25 7.28	14.69
	ϵ Orionis	3	41.5	43.6	44.9	54.4	55.5	56.7	57.9	58.8	8.4	9.7	11.7	29 56.65	0.09	33.97	5 29 22.59	14.58
E.	* — 24° 19′	4	29.9	32.3	33.6	44.3	45.3	46.5	47.8	49.0	59.3	0.7	2.8	1 46.50	0.15	34.20	10 1 12.15	11.66
	* — 24° 19′	5	. .	. .	.	21.5	22.7	23.9	25.2	26.2	36.8	38.0	40.4	2 29.34	5.62	34.20	10 1 49.52	11.67
	* — 24° 19′	6	47.7	49.8	51.1	1.9	3.0	4.3	5.6	6.6	17.0	18.4	20.7	3 4.17	0.15	34.20	10 2 29.82	11.67
	Weisse 116	7	18.0	19.6	22.0	31.7	32.8	34.2	35.4	36.4	46.0	57.2	59.3	8 34.02	0.07	34.21	10 7 59.74	13.97
	Lacaille 4218	8	29.5	30.7	31.9	33.4	34.5	. .	5.6	8.2	9.6	11.1	12.5	10 50.70	18.98	34.21	10 9 57.51	11.43
	* — 23° 1′	9	28.1	30.5	31.6	42.0	43.2	44.6	45.8	47.0	57.3	58.5	0.7	15 44.48	0.15	34.21	10 15 10.12	11.83
	Weisse (2) 412	10	46.6	48.8	50.1	0.2	1.3	2.6	3.7	4.8	14.8	16.0	18.1	22 2.47	0.06	34.22	10 21 28.19	14.13
	Rumker 3209	11	47.9	50.0	51.2	1.2	2.4	3.6	4.9	5.9	15.8	17.1	19.3	23 3.57	0.06	34.22	10 22 29.29	14.11
	Weisse 664	12	. .	. .	. .	48.4	49.8	51.9	6.9	9.1	10.2	11.5	12.9	39 2.59	25.88	34.23	10 38 2.48	13.36
	Σ Cat. Gen. 1248	13	3.7	6.0	7.2	17.9	19.1	20.3	21.6	22.7	33.1	34.0	36.9	44 20.28	0.04	34.23	10 43 46.01	14.18
	Dorpat 1487, (1st *)	14	38.8	40.0	41.4	. .	. .	. .	. .	. .	7.5	8.7	11.1	48 54.58	0.00	34.24	10 48 20.34	14.12
	Dorpat 1487, (2d *)	15	. .	. .	. .	52.7	53.9	55.1	56.3	57.4	. .	. .	. .	48 55.08	0.09	34.24	10 48 20.75	14.12
	χ Leonis	16	24.4	26.5	27.7	37.5	38.5	39.8	41.0	42.1	51.5	52.8	54.7	58 39.68	— 0.07	34.25	10 58 5.36	13.23
	O. Arg. N. 11496	17	42.1	46.1	48.6	7.4	9.9	12.1	14.2	16.0	32.5	37.5	42.1	3 11.92	+ 0.03	34.25	11 2 37.70	15.54
	O. Arg. N. 11518	18	48.4	52.5	54.8	13.6	15.7	18.0	20.4	22.6	41.1	43.8	47.4	4 18.03	+ 0.03	34.25	11 3 43.81	15.45
	Vesta	19	43.1	45.2	46.5	56.4	57.6	58.8	59.9	1.0	0.9	12.3	14.2	20 58.72	— 0.06	34.26	11 20 24.40	. .
	Lalande 21911	20	45.2	47.2	48.4	58.0	59.0	0.2	1.4	2.4	10.9	13.0	15.2	26 0.08	0.09	34.27	11 25 25.72	12.97
	ν Leonis	21	23.9	26.1	27.2	36.9	38.0	39.0	40.2	41.5	50.8	52.1	54.1	30 39.05	0.09	34.27	11 30 4.69	12.94
	Weisse 624	22	47.0	49.0	50.1	59.6	0.7	1.9	3.1	4.2	13.7	14.9	16.8	37 1.91	0.09	34.28	11 36 27.54	12.94
	Weisse 785	23	20.6	22.8	24.0	33.9	35.1	36.2	37.6	38.7	48.3	49.6	51.6	46 36.22	— 0.06	34.28	11 46 1.88	13.09
	Radcliffe 2768	24	11.5	14.4	15.7	. .	. .	. .	. .	. .	17.3	18.8	. .	50 27.54	+ 4.02	34.29	11 49 57.27	13.20
	Radcliffe 2769	25	56.3	57.6	59.5	1.0	4.5	. .	24.0	27.0	28.7	30.1	32.1	50 44.08	+ 0.29	34.29	11 50 10.08	13.20
	Radcliffe 2771	26	. .	. .	. .	51.3	52.6	54.1	55.7	57.1	. .	. .	. .	50 54.16	— 0.07	34.29	11 50 19.80	13.20
	13 Virginis	27	. .	. .	. .	33.8	35.1	37.0	51.9	54.2	55.3	56.6	58.0	12 47.74	25.79	34.30	12 11 47.65	12.83
	η Virginis	28	21.9	23.8	25.2	34.7	35.7	37.0	48.2	49.2	48.7	50.0	52.0	13 36.88	— 0.09	34.30	12 13 2.49	12.81
	Dorpat 1636, (1st *)	29	39.7	41.1	42.4	43.7	46.1	. .	46.6	49.0	50.3	51.4	52.7	16 16.30	+ 0.15	34.31	12 15 42.14	12.83
	Dorpat 1636, (2d *)	30	2.0	4.0	5.1	14.8	15.9	17.2	18.3	19.4	28.8	29.9	32.0	16 17.04	— 0.08	34.31	12 15 42.65	12.83
	κ Draconis	31	34.7	40.8	44.5	13.5	16.3	19.9	23.1	26.3	55.1	59.0	4.4	28 19.78	+ 0.07	34.32	12 27 45.53	9.71
	O. Arg. N. 12996	32	. .	. .	. .	33.4	37.9	43.6	49.4	54.1	. .	. .	. .	41 43.64	— 0.09	34.33	12 41 9.22	5.48
	α^1 Canum Venaticorum	33	31.0	32.9	34.6	36.1	49.3	. .	. .	. .	. .	. .	. .	49 34.78	+ 43.30	34.33	12 49 43.75	11.80
	α^2 Canum Venaticorum	34	0.0	2.5	4.1	16.6	18.0	19.5	21.0	22.3	34.6	36.1	38.4	50 19.37	— 0.02	—34.33	12 49 45.02	11.70
Tr. 15	20 Ophiuchi	35	45.3	47.3	48.5	58.2	59.4	0.6	1.8	2.8	12.4	13.7	15.7	42 0.52	0.09	+24.16	16 42 24.59	14.06
	κ Ophiuchi	36	39.0	41.7	42.9	52.7	53.7	54.9	56.1	57.2	6.8	8.1	10.0	50 54.88	0.09	24.15	16 51 18.94	11.99
	O. Arg. S. 16223	37	. .	. .	. .	6.9	8.1	9.3	10.5	11.6	. .	. .	. .	53 9.28	0.15	24.15	16 53 33.28	14.96
	29 Ophiuchi	38	20.2	22.3	23.5	33.9	35.0	. .	37.0	38.7	48.4	49.8	51.9	53 36.13	0.09	24.15	16 54 0.19	14.96
	η Ophiuchi	39	1.2	3.3	4.5	14.4	15.5	16.7	18.0	19.0	29.0	30.2	32.2	2 16.73	0.09	24.15	17 2 40.79	14.69
	θ Ophiuchi	40	5.4	7.5	8.8	19.5	20.6	21.9	23.2	24.4	14.8	36.2	38.3	13 21.87	0.10	24.14	17 13 45.91	15.80
	* — 24° 51′	41	. .	. .	. .	52.2	53.6	55.6	12.2	14.0	16.0	17.2	18.8	14 7.52	28.42	24.14	17 14 3.24	15.80
	β Draconis	42	36.2	39.3	41.2	57.0	58.8	0.6	2.6	4.4	19.9	21.8	25.2	27 0.64	0.15	24.13	17 27 24.62	5.00
	ξ Serpentis	43	. .	. .	. .	27.5	28.7	29.9	31.2	32.3	12.0	13.3	15.3	29 35.02	5.26	24.13	17 29 53.89	14.84
	o Serpentis	44	12.6	14.7	16.0	25.7	26.8	28.0	29.2	30.3	40.0	41.3	43.3	33 27.99	0.09	24.13	17 33 52.03	14.60
	Moon II	45	36.6	38.6	40.0	50.5	51.5	52.8	54.1	55.2	5.5	6.8	9.0	38 52.78	0.10	24.12	17 39 16.80	. .
	O. Arg. S. 17275	46	28.3	30.7	32.0	42.0	43.1	44.4	45.5	46.6	56.5	58.0	0.0	42 44.28	0.09	24.12	17 43 8.31	15.13
	* — 23° 50′	47	43.8	46.0	47.3	57.9	59.0	0.3	1.6	2.7	13.1	14.4	16.6	47 0.25	0.10	24.12	17 47 24.27	15.93
	Lalande 32766	48	14.4	16.7	17.8	28.4	29.6	30.9	32.2	33.4	43.7	45.1	47.2	48 30.86	0.10	24.11	17 48 54.87	15.94
	4 Sagittarii	49	55.0	57.2	58.5	9.0	10.3	11.5	12.8	13.9	24.2	25.7	27.8	51 11.45	— 0.10	24.11	17 51 35.46	+ 15.95
	Jupiter I	50	36.9	38.3	39.7	41.1	43.7	. .	48.8	51.4	52.6	54.1	55.6	55 16.22	+ 0.15	24.11	17 55 40.48	. .
	Jupiter II	51	3.2	5.3	6.7	17.1	18.3	19.6	20.9	22.0	32.2	33.6	35.8	55 19.52	— 0.10	+24.11	17 55 43.53	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 15, 18.4	+ 24.09	— 0.042	— 0.09

April 14, n. = + s. 0.12.
15, 0.00.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 15	O. Arg. S. 17817	1	58.3	0.5	1.9	12.2	13.2	14.5	15.7	16.8	27.1	28.4	30.6	4 14.47	— 0.10	+24.10	18 4 38.47	+ 15.70
Tr.	μ Sagittarii	2	3.5	5.7	6.9	17.3	18.4	19.7	21.0	22.2	32.3	33.8	35.7	5 19.68	0.10	24.10	18 5 43.68	+ 15.69
	δ Ursæ Minoris	3	18.0	52.0	12.0	55.0	12.0	32.0	53.0	9.0	49.0	11.0	45.0	15 31.64	1.52	24.10		— 97.72
	α Aquilæ	4	34.1	36.1	37.2	46.9	48.0	49.2	50.4	51.5	1.0	2.2	4.2	43 49.16	0.09	24.03	19 44 13.10	+ 13.23
16	α Cassiopeæ	5	2.1	5.7	7.9	25.0	26.9	. .	31.2	33.0	50.2	51.9	55.6	32 28.95	0.03	23.17	0 32 52.09	16.67
	Polaris	†6	. .	. .	. .	23.0	7.0	53.0	41.0	25.0	. .	. .	. .	8 53.80	2.27	23.16	1 9 14.69	120.49
17	Sun I	7	3.9	5.9	7.1	16.9	18.2	19.2	20.5	21.6	31.2	32.5	34.5	41 19.23	0.08	23.15	1 41 42.30	. .
	Sun II	†8	14.0	16.4	17.5	27.1	28.4	29.5	30.7	31.9	41.6	42.8	44.8	43 29.52	0.08	23.15	1 43 52.59	. .
	Mercury I	†9	0.3	2.7	4.0	14.1	15.2	16.5	17.7	18.9	28.8	30.3	32.3	50 16.44	0.07	23.13	2 50 39.50	0.31
	α Persei	10	. .	. .	. .	37.1	39.0	42.4	5.5	8.6	10.5	12.2	14.3	14 58.70	39.52	23.12	3 14 42.30	20.76
	Venus I	11	13.3	15.5	16.9	27.5	28.7	29.9	31.2	32.4	42.6	44.3	46.4	26 29.79	0.06	23.12	3 26 52.85	1.83
	α Tauri	12	32.4	34.6	35.8	45.9	47.1	48.3	49.5	50.4	0.4	1.5	3.7	27 48.15	0.07	23.09	4 28 11.17	16.62
E.	ρ Leonis	13	6.1	8.0	9.3	19.0	20.2	21.4	22.6	23.6	33.1	34.3	36.5	25 21.28	0.08	22.99	10 25 44.19	13.71
	* — 35° 39′	14	28.0	30.5	32.0	43.7	44.9	46.4	47.9	49.1	0.7	2.3	4.8	29 46.39	0.17	22.99	10 30 9.21	11.01
	Lacaille 4387	15	30.6	33.0	34.5	46.6	47.8	49.4	50.7	52.1	3.7	5.2	7.8	32 49.22	0.17	22.99	10 33 12.04	11.03
	* — 35° 50′	†16	9.8	12.5	13.8	. .	27.2	28.8	30.0	31.3	43.1	44.5	47.0	36 28.80	0.44	22.99	10 36 51.35	11.08
	* — 35° 24′	17	. .	. .	. .	41.7	43.3	45.7	3.8	6.9	8.2	9.5	11.2	40 58.79	31.70	22.98	10 40 50.07	11.16
	* — 35° 24′	18	. .	. .	. .	17.2	18.8	21.0	39.4	42.1	43.7	45.1	46.8	41 34.26	31.70	22.98	10 41 25.54	11.16
	Dorpat 1482, (1st *)	19	. .	. .	. .	44.8	45.9	47.0	48.4	49.3	. .	. .	. .	44 47.08	0.13	22.98	10 45 9.93	13.48
	Dorpat 1482, (2d *)	20	. .	. .	. .	59.4	0.7	2.6	17.8	19.9	21.3	22.5	23.9	45 13.51	— 26.04	22.98	10 45 10.45	13.48
	Dorpat 1487, (1st *)	21	17.1	18.4	19.7	21.1	23.7	. .	30.3	32.7	34.2	35.5	36.9	47 56.96	+ 0.19	22.98	10 48 20.13	14.16
	Dorpat 1487, (2d *)	22	41.2	42.3	44.6	55.4	56.5	57.7	59.2	0.3	10.7	12.2	14.3	47 57.67	— 0.06	22.98	10 48 20.59	14.16
	* — 22° 32′	23	55.7	57.9	59.1	9.5	10.7	12.0	13.2	14.3	24.5	25.8	28.0	52 11.88	0.13	22.98	10 52 34.73	12.10
	* — 33° 9′	24	43.9	46.2	47.7	59.3	0.6	1.8	3.4	4.5	15.9	17.4	19.8	55 1.86	0.16	22.98	10 55 24.68	11.48
	Weisse 1049	25	27.2	29.3	30.5	40.4	41.5	42.7	43.9	44.9	54.6	56.0	57.9	58 42.63	0.07	22.98	10 59 5.54	13.55
	O. Arg. N. 11518	26	51.0	55.2	57.3	16.6	18.7	21.0	23.3	25.3	44.0	46.4	50.5	3 20.85	0.04	22.98	11 3 43.79	15.60
	* + 59° 24′	27	36.4	40.5	42.9	1.9	3.9	6.4	8.5	10.6	29.2	31.7	35.8	7 6.16	0.04	22.98	11 7 29.10	15.34
	O. Arg. N. 11674	28	46.2	52.7	56.6	28.7	32.0	36.0	40.0	43.2	15.1	18.9	25.4	12 35.89	0.04	22.97	11 12 58.82	16.34
	Lacaille 4722	29	37.5	39.6	40.8	51.6	52.8	54.2	55.5	56.5	7.1	8.4	10.8	16 54.07	0.14	22.97	11 17 16.90	12.10
	Vesta	30	35.1	37.2	38.4	48.5	49.6	50.7	52.0	53.0	2.9	4.1	6.2	18 50.70	0.07	22.97	11 19 13.60	. .
	Weisse 390	31	27.3	29.4	30.5	40.1	41.2	42.3	43.5	44.5	54.1	55.3	57.3	22 42.32	0.08	22.97	11 23 5.21	13.09
	* + 0° 40′	†32	. .	. .	. .	. .	. .	. .	10.2	12.6	13.8	15.4	16.6	25 13.74	33.29	22.97	11 25 3.42	13.00
	ν Leonis	33	. .	. .	. .	53.5	55.0	56.8	11.5	13.9	15.0	16.3	17.6	30 7.45	25.79	22.97	11 30 4.63	12.96
	Weisse 553	34	. .	. .	. .	12.7	14.0	15.9	30.8	33.2	34.3	35.5	36.8	32 26.65	25.80	22.97	11 32 23.82	12.99
	B. A. C. 3962	35	53.3	55.3	56.5	6.2	7.1	8.4	9.6	10.6	20.1	21.2	23.2	33 8.32	0.09	22.97	11 33 31.20	12.99
	Weisse 789	36	23.6	25.6	26.9	36.8	37.9	39.1	40.3	41.2	51.2	52.5	54.5	45 39.06	0.07	22.96	11 46 1.95	13.10
	Weisse 895	37	4.2	6.1	7.3	17.1	18.2	19.3	20.5	21.6	31.0	32.2	34.2	52 19.25	0.09	22.96	11 52 42.12	12.88
	Dorpat 1604, (1st *)	38	54.2	56.5	57.5	7.4	8.5	9.7	11.0	12.0	21.6	22.8	24.8	2 9.64	0.11	22.96	12 2 32.49	12.76
	η Virginis	39	. .	. .	. .	51.3	52.6	54.6	9.4	11.8	13.0	14.2	15.6	13 5.31	25.79	22.96	12 13 2.48	12.81
	Weisse 743	40	48.8	50.8	52.0	1.9	2.9	4.3	5.5	6.5	16.2	17.4	19.4	44 4.28	0.11	22.95	12 44 27.12	13.70
	α^1 Canum Venaticorum	41	1.4	4.3	5.6	. .	. .	. .	. .	. .	35.8	37.5	40.1	49 20.78	0.00	22.94	12 49 43.72	11.75
	α^2 Canum Venaticorum	42	. .	. .	. .	19.2	20.7	22.2	23.8	25.1	. .	. .	. .	49 22.20	0.11	22.94	12 49 45.03	11.65
	θ Virginis	43	22.6	24.7	25.8	35.4	36.5	37.7	39.0	40.0	49.4	50.6	52.5	2 37.65	— 0.10	22.94	13 3 0.49	12.81
	Polaris, S. P.	44	. .	. .	. .	19.0	37.0	48.0	1.0	20.0	. .	. .	. .	8 49.00	+ 2.27	22.94	1 9 14.21	120.40
18	δ Leonis	45	19.1	21.3	22.6	32.8	34.1	35.4	36.7	37.8	47.8	49.1	51.3	6 35.27	— 0.08	22.56	11 6 57.75	13.77
Y.	δ Crateris	46	0.1	2.2	3.4	13.3	14.4	15.6	16.8	18.0	27.8	29.0	31.1	12 15.61	0.12	22.56	11 12 38.05	12.52
	* — 26° 1′	47	56.7	59.0	0.4	11.1	12.1	13.4	14.7	15.9	26.4	27.8	30.1	32 13.42	0.15	22.55	11 32 35.82	12.25
	Weisse 895	48	17.4	18.4	19.7	20.9	21.9	. .	49.4	51.7	53.0	54.1	55.6	52 36.21	16.73	22.54	11 52 42.02	12.88
	* — 35° 4′	49	. .	. .	. .	48.4	49.9	52.5	10.7	13.6	14.9	16.5	18.2	55 5.59	— 31.58	+22.54	11 54 56.55	+ 12.20

6. Very tremulous.
8. Tremulous.
9. Very faint and tremulous.
16. Faint.
32. Very faint.

	s.
April 17, . . . n. =	+ 0.08.
18, . . .	+ 0.08.
After 20h.	— 0.08.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 17, 2.7	+ 23.13	— 0.020	— 0.09
12.0	22.96	0.018	
18, 15.7	+ 22.48	— 0.017	— 0.10

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1865. April 18 Y.	Lacaille 5013	1	23.0	25.6	26.9	38.8	40.1	41.5	42.9	44.2	55.9	57.4	59.8	58 41.46	— 0.18	+22.54	11 59 3.82	+ 12.26
	O. Arg. S. 11944	2	48.4	50.6	51.8	2.8	3.9	5.2	6.6	7.7	18.4	19.7	22.0	2 5.19	0.15	22.54	12 2 27.58	12.50
	O. Arg. S. 11982	3	..	..	..	38.9	40.2	41.5	42.7	44.0	54.4	55.7	58.0	4 46.92	5.65	22.54	12 5 3.81	12.57
	* — 25° 16′	4	49.6	52.0	53.2	3.9	5.1	6.4	7.8	8.9	19.3	20.8	22.9	12 6.35	0.15	22.54	12 12 28.74	12.64
	Dorpat 1636	5	..	..	..	..	..	..	50.2	52.6	53.9	55.1	56.4	15 53.64	33.47	22.54	12 15 42.71	12.84
	Lacaille 5159	6	45.5	47.9	49.1	0.0	1.3	2.5	4.0	5.0	15.9	17.3	19.5	20 2.54	0.16	22.54	12 20 24.92	12.69
	O. Arg. S. 12219	7	53.1	55.4	56.7	7.9	9.2	10.5	11.7	13.0	23.8	25.4	27.6	24 10.39	0.16	22.54	12 24 32.77	12.71
β	Corvi	8	42.2	44.6	45.8	56.2	57.4	58.6	0.0	1.0	11.3	12.6	14.7	26 58.58	0.14	22.54	12 27 20.98	12.77
	Lacaille 5234	9	21.5	24.0	25.5	37.7	38.9	40.4	41.8	43.2	55.1	56.7	59.0	32 40.35	0.19	22.53	12 33 2.69	12.77
	* — 40° 30′	10	30.6	33.3	35.1	47.7	49.1	50.5	52.2	53.4	5.9	7.5	10.0	35 50.48	0.20	22.53	12 36 12.81	12.80
	* — 37° 7′	11	35.4	38.0	39.5	51.5	52.8	54.2	55.8	57.2	8.9	10.4	13.2	42 54.26	0.19	22.53	12 43 16.60	12.95
	Weisse 834	12	46.0	48.1	49.3	59.4	0.5	1.6	2.8	3.8	13.6	14.9	16.0	49 1.46	0.12	22.53	12 49 23.87	12.92
θ	Virginis	13	23.0	25.0	26.2	35.8	36.9	38.1	39.1	40.2	49.8	51.0	53.0	2 38.01	0.11	22.53	13 3 0.43	12.81
	Polaris, S. P.	14	3.0	40.0	52.5	..	..	38.0	50.0	..	..	..	..	14 24.70	3 32.25	22.52	13 9 14.97	120.22
	* — 34° 28′	15	45.2	47.8	49.2	0.9	2.3	3.7	5.1	6.3	17.8	19.3	21.5	38 3.56	0.18	22.51	13 38 25.89	+ 13.85
	Saturn I	16	1.0	2.9	4.2	14.0	15.6	16.3	17.4	18.4	27.9	29.2	31.2	43 16.14	— 0.11	22.51	13 43 38.54	..
	Saturn II	17	40.5	41.7	43.1	44.6	46.7	..	47.5	50.0	51.1	52.3	53.8	43 17.13	+ 0.12	22.51	13 43 39.76	..
	Radcliffe 3117	18	51.0	1.9	8.5	2.0	8.4	14.8	21.3	27.2	19.6	27.0	37.9	50 14.51	— 0.12	22.51	13 50 36.90	— 6.13
	O. Arg. S. 13349	19	2.4	4.6	5.9	16.8	18.0	19.3	20.7	21.8	32.5	34.0	36.3	56 19.30	— 0.16	22.51	13 56 41.65	+ 13.85
	* — 26° 32′	20	20.9	22.2	23.9	25.2	27.7	..	34.9	37.6	38.9	40.4	41.9	1 1.36	+ 0.10	22.51	14 1 23.97	13.85
	* — 26° 32′	21	48.8	51.0	52.3	3.0	4.3	5.7	6.8	8.1	18.6	19.9	22.1	1 5.51	— 0.15	22.51	14 1 27.87	13.85
	* — 24° 29′	22	..	..	..	9.1	10.7	12.7	29.3	31.9	33.3	34.5	36.0	3 24.69	28.39	22.51	14 3 18.81	13.78
	* — 36° 57′	23	1.6	4.0	5.5	17.5	18.8	20.3	21.8	23.2	35.1	36.5	39.0	7 20.30	0.19	22.51	14 7 42.62	14.46
	Lacaille 5883	24	48.3	50.7	52.0	3.5	4.6	6.1	7.5	8.8	20.1	21.6	23.9	10 6.10	0.17	22.51	14 10 28.44	14.27
	O. Arg. S. 13541	25	44.5	46.9	48.1	59.0	0.2	1.5	2.8	4.2	14.7	16.1	18.2	12 1.47	0.16	22.51	14 12 23.82	14.03
	Lacaille 5910	26	37.0	39.5	40.7	51.6	52.7	54.0	55.4	56.5	7.5	8.8	10.1	13 53.98	0.16	22.50	14 14 16.32	14.06
	Lacaille 5923	27	36.4	38.8	40.1	51.6	52.8	54.3	55.8	56.9	8.0	9.7	11.9	15 54.21	0.17	22.50	14 16 16.54	14.37
	* — 26° 35′	28	40.0	42.2	43.7	54.4	55.7	56.9	58.2	59.3	10.0	11.4	13.6	17 56.85	0.15	22.50	14 18 19.20	14.06
	Lacaille 5956	29	8.9	11.2	12.5	23.2	24.3	25.7	27.0	28.1	38.6	40.0	42.2	21 25.60	0.15	22.50	14 21 47.95	14.03
ρ	Bootis	30	23.0	25.5	26.8	38.0	39.4	40.7	42.1	43.2	54.4	55.8	58.0	25 40.63	0.07	22.50	14 26 3.06	10.51
	Moon II	31	39.7	42.0	43.1	53.4	54.5	55.7	56.9	58.1	8.0	9.2	11.6	28 55.65	0.08	22.40	20 29 17.97	..
α	Cygni	32	7.5	10.4	12.0	25.6	27.1	28.5	30.2	31.8	45.3	46.9	49.7	36 28.64	0.22	22.40	20 36 50.82	9.21
ζ	Cygni	33	32.8	35.3	36.5	47.7	48.9	50.3	51.7	52.9	3.7	5.2	7.5	6 50.23	0.16	22.39	21 7 12.46	11.75
β	Cephei	34	48.7	54.8	58.0	26.4	29.4	32.8	36.2	39.0	7.0	10.8	16.2	26 32.66	0.50	22.38		3.83
ε	Pegasi	35	56.6	58.9	0.1	9.8	10.9	12.1	13.3	14.3	23.8	25.2	27.1	37 12.01	— 0.11	22.38	21 37 34.28	13.82
Tr. 21	Moon II	36	39.5	41.4	42.8	52.7	53.7	54.8	56.0	57.1	7.0	8.3	10.4	20 54.88	+ 0.07	19.87	23 21 14.82	..
22	Sun I	37	45.0	46.8	48.1	58.0	58.9	0.2	1.3	2.5	12.5	13.7	15.9	0 0.26	0.11	19.73	2 0 20.10	..
	Sun II	38	55.9	57.7	59.1	8.9	9.9	11.2	12.4	13.4	23.3	24.5	25.6	2 11.08	+ 0.11	19.73	2 2 30.92	..
α	Persei	39	..	..	..	19.3	20.6	22.4	24.2	25.8	40.7	42.5	45.7	14 30.15	— 7.33	19.67	3 14 42.49	20.77
	Venus I	40	59.3	0.9	2.3	3.5	6.2	..	12.4	14.8	16.2	17.6	19.0	23 39.20	— 0.10	19.66	3 23 58.76	1.95
α	Tauri	41	35.9	38.0	39.3	49.1	50.1	51.3	52.6	53.6	3.6	4.9	7.0	27 51.40	+ 0.11	19.60	4 28 11.11	16.65
β	Orionis	42	..	..	..	41.5	42.5	43.6	44.9	45.9	55.7	56.9	58.8	7 48.73	— 4.96	19.57	5 8 3.34	14.04
23	γ Pegasi	†43	44.9	46.9	48.2	58.0	59.2	0.2	1.4	2.8	12.5	13.8	15.9	6 0.35	+ 0.12	17.28	0 6 17.75	14.92
	Polaris	44	46.0	4.0	57.0	15.0	57.0	48.0	31.0	15.0	..	..	..	5 26.62	3 31.93	17.23	1 9 15.78	119.01
24	Sun I	45	17.4	19.4	20.7	30.4	31.7	33.0	34.1	35.1	45.0	46.3	48.2	7 32.85	0.12	17.18	2 7 50.15	..
	Sun II	46	28.6	30.6	..	41.8	42.8	44.0	45.3	46.4	..	57.6	59.7	9 44.09	0.13	17.18	2 10 1.40	..
	Venus I	†47	8.7	10.9	12.2	22.8	23.9	25.3	26.7	27.8	38.2	39.5	41.8	21 25.26	0.16	17.12	3 21 42.54	2.00
α	Tauri	48	..	..	..	41.5	42.8	44.0	45.0	46.3	..	..	..	27 43.92	0.15	17.06	4 28 1.16	16.66
β	Tauri	49	12.0	14.2	15.7	26.4	27.6	29.0	30.3	31.6	42.5	43.8	46.3	17 29.04	0.17	17.02	5 17 46.23	18.19
Y. ε	Orionis	50	50.2	52.1	53.5	3.0	4.0	5.2	6.4	7.4	16.9	18.2	20.2	29 5.19	+ 0.08	+17.13	5 29 22.40	+ 14.70

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 22,	4.3 + 19.61	— 0.053	+ 0.07
24,	3.3 17.12	0.051	+ 0.08
	5.9 17.11	0.051	
	11.8 + 16.81	— 0.051	

43. Very faint.
47. Tremulous.

April 22, n. = +0.15. s.
23–24, P. and P. S. P. n. = +0.15.

April 19, 1h. Image west 0.22. Clamp west.
Image east 0.13. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 24	α Orionis	1	20.1	22.3	23.5	33.0	34.0	35.2	36.4	37.5	47.1	48.5	50.5	47 35.28	+ 0.10	+17.12	5 47 52.50	+ 15.55
Y.	γ Geminorum	2	22.8	24.9	26.3	36.2	37.2	38.5	39.7	40.7	50.8	52.1	54.1	29 38.48	0.13	17.08	6 29 55.69	16.40
E.	ρ Leonis	3	12.2	14.0	15.4	25.0	26.0	27.2	28.5	29.4	39.2	40.4	42.5	25 27.25	0.11	16.88	10 25 44.24	13.80
	* — 28° 20′	4	37.9	40.0	41.4	52.3	53.5	54.8	56.1	57.2	8.2	9.7	11.7	36 54.80	0.01	16.87	10 37 11.68	11.73
	Σ Cat. Gen. 1248	5	12.3	14.6	15.8	26.4	27.5	28.7	30.1	31.4	42.0	43.2	45.6	43 28.87	+ 0.16	16.87	10 43 45.89	14.30
	Dorpat 1487, (1st *)	6	23.3	24.8	26.0	27.2	29.9	. .	36.7	39.0	40.5	42.1	43.3	48 3.28	— 0.09	16.86	10 48 20.05	14.24
	Dorpat 1487, (2d *)	7	46.9	49.1	50.6	1.0	2.1	3.4	4.8	6.1	16.7	17.8	20.1	48 3.51	+ 0.16	16.86	10 48 20.53	14.24
	* — 33° 9′	8	49.9	52.3	53.8	5.1	6.1	7.3	8.7	10.3	21.8	23.6	25.9	55 7.71	0.00	16.86	10 55 24.57	11.58
	Weisse 1025	9	57.5	59.6	1.0	10.6	11.8	12.9	14.1	15.3	25.2	26.5	28.6	57 13.01	0.12	16.85	10 57 29.98	13.64
	Weisse 1075	10	40.1	42.2	43.5	53.0	54.1	55.5	56.6	57.7	7.4	8.6	10.8	59 55.41	0.11	16.85	11 0 12.37	13.53
	O. Arg. N. 11496	11	. .	. .	. .	15.2	17.4	20.2	22.2	24.3	. .	. .	. .	2 19.86	0.42	16.85	11 2 37.13	15.77
	O. Arg. N. 11518	12	57.0	0.5	3.4	22.0	23.7	26.1	28.4	30.5	49.4	52.0	56.0	3 26.27	+ 0.42	16.85	11 3 43.54	15.72
	O. Arg. N. 11590	13	. .	. .	. .	19.5	23.0	28.7	12.9	19.7	23.3	27.6	31.1	9 0.73	— 1 15.22	16.85	11 8 2.36	16.65
	δ Crateris	14	5.7	7.7	9.0	18.8	19.9	21.2	22.4	23.4	33.2	34.4	36.5	12 21.11	+ 0.04	16.84	11 12 37.99	12.58
	Vesta	15	57.3	59.1	0.5	10.2	11.4	12.7	14.0	14.9	25.1	26.3	28.5	17 12.73	0.13	16.84	11 17 29.70	. .
	Dorpat 1540, (1st *)	16	25.8	27.7	29.0	. .	. .	. .	. .	. .	52.5	53.6	55.6	19 40.70	0.05	16.84	11 19 57.59	13.16
	Dorpat 1540, (2d *)	17	. .	. .	. .	39.5	40.5	41.6	42.8	43.9	. .	. .	. .	19 41.66	0.14	16.84	11 19 58.64	13.16
	B. A. C. 3917	18	57.3	59.2	0.5	9.8	10.9	12.2	13.4	14.4	24.2	25.2	27.3	24 12.22	0.09	16.83	11 24 29.14	13.13
	* — 5° 45′	19	52.2	54.0	55.2	4.8	5.8	7.0	8.2	9.2	19.1	21.3	22.2	28 7.18	0.04	16.83	11 28 24.05	12.88
	B. A. C. 3962	20	59.4	1.3	2.5	12.0	13.0	14.2	15.4	16.5	26.2	27.2	29.4	33 14.28	0.08	16.83	11 33 31.19	13.04
	Weisse 624	21	55.8	57.7	59.0	8.4	9.5	10.7	11.9	12.9	22.5	23.6	25.6	36 10.69	+ 0.08	16.82	11 36 27.59	13.01
	* — 36° 57′	22	31.7	33.1	34.8	36.4	37.6	. .	12.5	15.5	17.0	18.6	20.3	43 55.75	— 21.03	16.82	11 43 51.54	12.01
	* — 37° 34′	23	. .	. .	. .	0.3	1.6	4.7	23.7	26.7	28.2	29.9	31.8	46 18.36	32.83	16.81	11 46 2.34	12.02
	Lacaille 4941	24	47.4	49.0	50.4	52.0	53.2	. .	29.3	32.4	34.0	35.5	37.2	49 12.04	— 21.61	16.81	11 49 7.24	12.01
	Weisse 895	25	10.4	12.2	13.5	23.0	24.1	25.4	26.5	27.5	37.0	38.2	40.2	52 25.27	+ 0.08	16.81	11 52 42.16	12.92
	Lacaille 4993	26	13.1	15.6	17.1	28.9	30.3	31.9	33.4	34.7	47.4	48.8	51.3	56 32.04	— 0.02	16.80	11 56 48.82	12.16
	ϵ Corvi	27	41.1	43.1	44.5	54.6	55.8	57.0	58.3	59.5	9.7	11.0	13.1	2 57.06	+ 0.03	16.80	12 3 13.89	12.64
	O. Arg. S. 12232	28	11.5	13.5	15.0	26.0	27.0	28.4	29.6	30.9	42.2	43.5	45.9	25 28.50	0.01	16.78	12 25 45.29	12.75
	O. Arg. S. 12258	29	23.9	26.0	27.6	38.0	39.0	40.4	41.8	43.0	53.8	55.0	57.4	27 40.54	0.02	16.78	12 27 57.34	12.80
	O. Arg. S. 12342	30	49.0	51.4	52.9	3.0	4.1	5.3	6.7	7.8	18.4	19.6	22.0	34 5.47	0.02	16.77	12 34 22.26	12.86
	Weisse 632	31	38.6	40.8	42.2	51.9	53.0	54.1	55.4	56.5	6.4	7.6	9.7	37 54.20	+ 0.12	16.77	12 38 11.09	12.63
	Lalande 23832	32	1.3	2.2	3.4	4.7	5.8	. .	34.9	37.5	38.7	40.0	41.4	40 20.99	— 17.23	16.76	12 40 20.52	12.61
	B. A. C. 4299	33	58.8	0.9	2.2	12.0	13.0	14.2	15.4	16.6	26.5	27.7	29.9	41 14.29	+ 0.12	16.76	12 41 31.17	12.59
	Lacaille 5326	34	43.6	45.8	47.2	58.2	59.2	0.6	2.0	3.3	14.3	15.7	18.0	48 0.72	+ 0.01	16.76	12 48 17.49	13.02
	Weisse 839	35	. .	. .	. .	41.0	42.2	44.2	0.1	2.5	3.7	5.4	6.4	49 55.64	— 26.79	16.76	12 49 45.61	12.92
	Lacaille 5426	36	. .	. .	. .	. .	. .	. .	22.5	25.4	27.0	28.6	30.2	4 26.74	40.78	16.74	13 4 2.70	13.29
	Polaris, S. P.	37	. .	. .	. .	43.0	59.0	12.0	24.0	42.0	. .	. .	. .	9 12.00	11.21	16.74	1 9 17.53	118.80
	Weisse 303	38	12.2	. .	15.7	25.3	26.3	27.4	28.7	29.8	39.1	40.4	42.7	19 28.76	— 1.21	16.73	13 19 44.28	12.63
	Weisse 354	39	11.6	13.8	15.0	24.7	25.7	26.9	28.0	29.0	38.7	39.7	42.0	22 26.83	+ 0.09	16.73	13 22 43.65	12.62
	ζ Virginis	40	20.0	21.9	23.2	32.3	33.4	34.7	35.9	37.0	46.6	47.8	49.9	27 34.79	+ 0.08	16.73	13 27 51.60	12.59
Y.	α Andromedæ	41	. .	. .	. .	. .	. .	. .	43.2	46.2	47.5	48.9	50.4	1 47.24	— 38.06	16.24	0 1 25.42	14.87
	Polaris	42	45.0	6.0	58.0	11.0	0.0	50.0	39.0	21.5	55.0	42.0	6.5	8 53.09	+ 9.34	16.18	1 9 18.61	118.58
25	Sun I	43	4.5	6.4	7.6	17.4	18.5	19.8	20.9	22.0	32.0	33.2	35.3	11 19.78	0.12	16.12	2 11 36.02	. .
	Sun II	44	15.6	17.7	19.0	28.7	29.8	30.9	32.2	33.3	43.2	44.5	46.5	13 31.04	0.12	16.12	2 13 47.28	. .
	Venus I	45	48.6	50.8	52.2	2.6	3.7	5.0	6.4	7.6	18.1	19.3	21.7	20 5.09	0.15	16.06	3 20 21.30	2.02
	α Tauri	46	39.4	41.5	42.8	52.6	53.8	55.0	56.2	57.3	7.3	8.5	10.6	27 55.00	0.12	16.00	4 28 11.12	16.67
	β Orionis	47	32.2	34.2	35.6	45.1	46.1	47.4	48.6	49.7	59.4	0.7	2.6	7 47.42	0.08	15.97	5 8 3.47	14.07
	β Tauri	48	13.1	15.4	16.8	27.6	28.7	30.0	31.4	32.6	43.6	44.9	47.3	17 30.13	0.16	+15.94	5 17 46.23	18.20
Tr.	δ Orionis	49	36.5	38.2	39.5	49.0	49.9	51.1	52.2	53.4	3.1	4.3	6.2	24 51.20	0.09	. .		14.81
	ϵ Orionis	50	51.5	53.5	54.6	4.2	5.1	6.3	7.5	8.5	18.1	19.4	21.5	29 6.38	+ 0.09	. .		+ 14.71

8. Faint.
23. Faint.

April 25, $n. = +0.10$ s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 25, 8.6	+ 15.79	— 0.052	+ 0.09

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1865. April 25 Y.	* + 12° 56′ . .	1	39.7	41.7	42.9	52.6	53.6	55.0	56.1	57.1	7.1	8.2	10.3	1 54.94	+ 0.11	+15.72	10 2 10.77	+ 14.21
	* + 12° 57′ . .	2	27.6	29.6	31.0	40.7	41.7	42.9	44.2	45.2	55.2	56.4	58.4	2 42.99	0.11	15.72	10 3 58.82	14.30
	Lacaille 4227 . .	3	19.5	22.0	23.4	34.7	35.9	37.3	38.7	39.9	51.6	53.0	55.6	10 37.42	0.04	15.71	10 10 53.17	11.14
	γ Leonis	4	1.7	3.9	5.2	15.3	16.4	17.7	18.9	20.0	30.3	31.6	33.8	12 17.71	0.13	15.71	10 12 33.55	14.63
	Weisse (2) 412 . .	5	56.5	58.5	59.9	9.8	10.9	12.2	13.4	14.5	24.5	25.9	28.0	21 12.19	0.13	15.70	10 21 28.02	14.27
	* + 17° 33′ . .	6	. .	50.9	52.2	2.2	3.2	4.5	5.7	6.8	17.1	18.2	. .	25 4.53	+ 0.14	15.70	10 25 20.37	14.21
	Lacaille 4358 . .	7	. .	. .	. .	15.2	16.7	19.4	38.7	41.8	43.4	45.0	46.7	29 33.36	— 33.37	15.69	10 29 15.68	10.85
	Lacaille 4412 . .	8	22.7	25.3	26.7	39.3	40.5	42.1	43.7	45.0	57.7	59.0	1.8	35 42.16	+ 0.03	15.69	10 35 57.88	10.83
	* — 36° 8′ . . .	9	. .	. .	. .	50.7	51.9	53.3	54.7	56.3	8.1	9.5	12.0	37 59.56	— 6.09	15.69	10 38 9.16	11.19
	Lacaille 4437 . .	10	. .	. .	. .	29.8	31.2	33.7	52.7	55.7	57.2	58.7	0.2	38 47.40	— 32.20	15.69	10 38 30.89	11.18
	* — 36° 14′ . .	11	7.6	9.9	11.5	23.4	24.6	26.1	27.6	28.8	40.8	42.2	44.8	39 26.12	+ 0.04	15.68	10 39 41.84	11.20
	Lacaille 4480 . .	12	40.2	42.7	44.4	56.6	57.7	59.1	0.7	2.1	14.4	15.8	18.3	42 59.27	+ 0.04	15.68	10 43 14.99	11.06
	Lacaille 4503 . .	13	. .	. .	. .	39.9	41.3	42.9	44.5	45.7	58.6	0.1	2.4	46 49.42	— 6.41	15.68	10 46 58.69	11.01
	Lacaille 4527 . .	14	54.1	56.5	58.0	10.0	11.1	12.7	14.2	15.4	27.4	28.9	31.3	50 12.69	+ 0.04	15.67	10 50 28.40	11.32
	Lacaille 4558 . .	15	. .	. .	. .	42.1	43.6	46.3	6.0	9.0	10.5	12.3	14.1	55 0.49	— 33.81	15.67	10 54 42.35	11.12
	Lacaille 4576 . .	16	19.1	21.5	23.0	35.7	36.9	38.5	40.0	41.3	53.7	55.2	57.9	57 38.44	+ 0.03	15.67	10 57 54.14	11.18
	δ Crateris	17	6.7	8.8	10.1	19.9	20.9	22.1	23.3	24.5	34.4	35.6	37.6	12 22.17	0.07	15.65	11 12 37.89	12.59
	Vesta	18	50.7	52.7	54.0	3.8	4.9	6.1	7.4	8.5	18.4	19.7	21.9	17 6.19	0.12	15.65	11 17 21.96	. .
	Dorpat 1540, (1st *)	19	26.8	28.8	30.1	. .	. .	. .	. .	. .	53.7	54.9	56.9	19 41.87	0.06	15.65	11 19 57.58	13.17
	Dorpat 1540, (2d *)	20	. .	. .	. .	40.5	41.6	42.8	43.9	45.0	. .	. .	. .	19 42.76	+ 0.15	15.65	11 19 58.56	13.17
	(* 123) W. . . .	21	. .	. .	. .	23.2	26.8	33.6	23.1	31.3	35.0	39.1	43.5	24 9.45	— 1 24.54	15.64	11 23 0.55	15.72
	Σ Cat. Gen. 1326 .	22	17.0	23.7	27.7	57.6	0.7	4.7	8.3	11.7	42.2	45.8	52.5	27 4.72	+ 0.59	15.64	11 27 20.95	15.35
	α Canum Venaticorum.	23	9.9	12.4	14.0	26.2	27.5	29.0	30.6	32.0	44.3	45.9	48.6	49 29.13	0.20	15.57	12 49 44.90	11.65
	* — 16° 55′ . .	24	24.5	26.7	27.8	37.7	38.7	40.0	41.3	42.0	52.5	53.7	55.8	56 40.10	0.06	15.56	12 56 55.72	12.99
	O. Arg. S. 12629 .	25	24.3	26.3	27.6	37.5	38.5	39.8	41.0	42.2	52.3	53.4	55.5	57 39.85	0.06	15.56	12 57 55.47	13.00
	O. Arg. S. 12671 .	26	55.3	57.5	58.7	9.1	10.3	11.5	12.8	14.0	24.4	25.8	27.8	1 11.56	+ 0.06	15.56	13 1 27.18	13.10
	Lacaille 5426 . .	27	. .	. .	. .	1.3	2.7	5.2	23.5	26.5	27.8	29.5	31.1	4 18.45	— 31.48	15.56	13 4 2.53	13.28
	* + 35° 12′ . .	28	. .	. .	. .	. .	. .	. .	. .	37.7	38.8	40.2	42.1	6 39.70	42.18	15.56	13 6 13.08	13.32
	Polaris, S. P. . .	29	. .	. .	. .	. .	. .	18.0	0.0	7.0	42.0	59.5	12.0	14 3.08	— 5 0.24	15.55	1 9 18.39	118.36
	Lacaille 5573 . .	30	. .	36.4	37.9	48.6	49.8	51.1	52.4	53.6	4.5	5.8	. .	23 51.12	+ 0.06	15.54	13 24 6.72	13.41
	ζ Virginis	31	. .	. .	. .	33.8	34.7	36.0	37.1	38.2	47.9	49.0	51.1	27 40.98	— 4.87	15.54	13 27 51.65	12.59
	* + 77° 0′ . .	32	49.1	57.6	3.6	45.6	49.8	55.2	0.0	4.9	48.1	53.1	2.3	31 55.39	+ 0.83	15.53	13 32 11.75	+ 0.20
	O. Arg. N. 13847 .	33	. .	. .	. .	38.2	44.3	53.3	1.8	12.3	18.1	23.9	29.8	34 42.71	— 1 57.15	15.53	13 33 0.09	— 0.20
	Saturn I . . .	34	46.9	48.2	49.4	50.7	53.0	. .	53.6	56.0	57.3	58.6	59.9	41 23.36	— 0.15	15.52	13 41 38.73	. .
	Saturn II . . .	35	9.2	11.2	12.4	22.0	23.0	24.2	25.4	26.5	36.2	37.4	39.4	41 24.26	+ 0.08	15.52	13 41 39.86	. .
	* — 37° 38′ . .	36	10.5	12.9	14.5	26.6	27.7	29.0	30.7	32.0	44.4	45.7	48.4	48 29.31	0.04	15.52	13 41 44.87	+ 14.10
	* — 36° 50′ . .	37	50.1	52.4	53.8	5.8	7.1	8.5	10.3	11.3	23.4	24.9	27.4	52 8.61	+ 0.04	15.52	13 52 24.17	14.13
	Brisbane 4727 . .	38	. .	. .	. .	50.8	52.0	53.6	55.0	56.4	8.5	9.9	12.4	52 59.82	— 6.15	15.52	13 53 9.19	14.14
	Weisse 199, (1st *)	39	24.7	26.0	27.4	28.7	30.9	. .	32.7	35.1	36.4	37.7	39.0	12 1.86	— 0.16	15.50	14 12 17.20	13.27
	Weisse 199, (2d *)	40	46.7	48.6	49.8	59.5	0.6	1.8	3.0	4.0	13.9	15.1	17.2	12 1.84	+ 0.07	15.50	14 12 17.41	13.27
	Lacaille 6060 . .	41	2.1	4.4	5.7	16.5	17.5	18.9	20.2	21.5	32.3	33.5	35.8	34 18.95	0.05	15.47	14 34 34.47	14.21
	ε Bootis	42	35.6	37.8	39.3	49.8	50.9	52.3	53.7	55.0	5.7	7.1	9.5	38 52.43	0.15	15.46	14 39 8.04	10.62
Tr.	Polaris	43	. .	. .	. .	25.0	5.0	55.0	42.0	28.0	. .	. .	. .	8 55.00	+ 9.59	14.91	1 9 19.50	118.13
26	Sun I	44	. .	. .	. .	1.2	2.5	3.6	4.8	5.7	15.7	17.0	18.7	15 8.65	— 4.99	18.80	2 15 22.46	. .
	Sun II	45	59.7	1.6	3.0	12.8	13.7	15.0	16.2	17.3	27.2	28.3	30.4	17 15.02	+ 0.12	18.80	2 17 33.94	. .
	α Tauri	46	36.9	38.8	40.1	50.0	51.0	52.2	53.5	54.6	4.7	5.8	8.0	27 52.33	+ 0.12	18.69	4 28 11.14	16.67
	α Aurigæ	47	3.6	. .	8.1	21.7	23.1	24.9	26.6	28.2	42.1	43.7	46.5	6 26.85	— 1.64	18.66	5 6 43.87	21.36
	β Orionis	48	29.4	31.5	32.8	42.4	43.5	. .	45.8	46.9	56.6	. .	59.9	7 43.20	+ 1.54	18.66	5 8 3.40	14.08
	β Tauri	49	10.4	12.7	14.2	24.9	26.0	27.3	28.7	30.0	40.9	42.3	44.7	17 27.46	0.16	18.65	5 17 46.27	18.20
	ε Orionis	50	48.6	50.5	52.0	1.4	2.4	3.5	4.8	5.8	15.4	16.6	18.7	29 3.61	+ 0.09	+18.64	5 29 22.34	+ 14.72

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 25,	8.6 + 15.79	— 0.052	+ 0.09

April 25–26. By P., P. S. P., and P., n. = + s. 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 26	α Orionis	1	18.5	20.6	21.8	31.5	32.4	33.6	34.9	36.0	45.6	46.8	48.8	47 33.68	+ 0.10	. .		+ 15.57
Tr.	γ^1 Leonis	2	36.5	37.9	39.2	40.5	43.0	. .	47.1	. .	. .	52.5	54.0	12 6.34	8.69	+18.41	10 12 33.44	14.64
	γ^2 Leonis	3	59.2	1.3	2.8	12.8	. .	15.1	16.4	17.5	27.7	29.1	31.2	12 15.31	0.00	18.41	10 12 33.72	14.54
	ι Leonis	4	37.9	39.8	41.3	50.8	51.9	53.0	54.4	55.4	5.1	6.3	8.5	41 53.13	+ 0.11	18.39	10 42 11.63	13.77
	B. A. C. 3726	5	25.1	26.4	27.7	28.8	31.2	. .	31.2	33.8	34.8	36.1	37.4	45 1.25	— 0.14	18.39	10 45 19.50	13.30
	d Leonis	6	4.0	5.9	7.2	16.5	17.6	18.9	20.2	21.2	30.8	32.1	34.1	53 18.95	+ 0.10	18.38	10 53 37.43	13.36
	O. Arg. S. 11114	7	. .	. .	. .	25.4	26.6	28.0	29.2	30.5	. .	. .	. .	58 27.94	0.10	18.38	10 58 46.42	11.85
	O. Arg. S. 11147	8	. .	. .	. .	4.9	5.9	7.4	8.7	9.9	. .	. .	. .	0 7.36	0.10	18.38	11 0 25.84	11.86
	Lacaille 4616	9	44.6	47.1	48.8	0.9	2.2	3.8	4.3	5.8	19.0	20.5	23.2	2 3.75	0.03	18.38	11 2 22.16	11.32
	O. Arg. N. 11584	10	53.6	57.3	0.0	18.8	20.4	22.9	25.3	27.2	45.6	48.0	52.1	7 22.84	0.34	18.37	11 7 41.55	15.52
	O. Arg. N. 11674	11	49.3	56.4	0.4	31.6	35.1	38.9	43.0	46.3	18.3	22.4	29.3	12 39.18	0.62	18.36	11 12 58.16	16.77
	Vesta	12	42.1	44.1	45.3	55.2	56.3	57.5	58.7	59.7	9.7	11.0	13.1	16 57,52	0.12	18.36	11 17 16.00	. .
	Weisse 403	13	27.5	29.6	30.7	40.3	41.3	42.5	43.7	44.8	54.6	55.7	57.8	23 42.50	0.08	18.35	11 24 0.93	12.90
	O. Arg. N. 11873	14	. .	. .	. .	54.5	57.9	1.5	5.3	8.8	. .	. .	. .	27 1.60	0.72	18.35	11 27 20.67	15.30
	Lacaille 4849	15	6.8	9.2	10.7	22.2	23.6	24.9	26.2	27.8	39.3	40.8	43.2	34 24.97	+ 0.04	18.34	11 34 43.35	11.99
	Weisse 624	16	. .	. .	. .	6.8	7.9	9.0	10.2	11.3	20.9	22.0	24.0	36 14.01	— 4.87	18.34	11 36 27.48	13.02
	* + 15° 19′	17	58.6	0.7	2.0	11.8	12.7	13.9	15.2	16.4	26.3	27.6	29.7	40 14.08	+ 0.12	18.34	11 40 32.54	13.24
	Weisse 812	18	8.2	9.6	10.9	12.2	14.6	. .	16.6	19.4	20.5	21.8	23.2	41 45.70	— 0.12	18.34	11 42 3.92	13.22
	β Leonis	19	38.7	40.7	42.1	51.8	52.9	54.1	55.3	56.4	6.3	7.6	9.7	41 54.15	+ 0.12	18.34	11 42 12.61	13.05
	Weisse 773	20	. .	. .	. .	3.2	4.3	5.4	6.6	7.8	17.7	18.9	21.1	45 10.62	— 4.99	18.34	11 45 23.97	13.17
	Weisse 785	21	. .	. .	. .	41.0	42.2	43.4	44.5	45.6	55.4	56.7	58.8	45 48.45	4.99	18.34	11 46 1.80	13.16
	Radcliffe 2768	22	. .	. .	. .	. .	. .	. .	18.6	21.8	23.6	25.3	27.1	50 23.28	— 44.44	18.33	11 49 57.17	13.32
	Radcliffe 2769	23	31.9	34.4	36.0	. .	. .	. .	. .	. .	7.2	8.8	11.4	49 51.62	+ 0.16	18.33	11 50 10.11	13.32
	Radcliffe 2771	24	. .	. .	. .	58.3	59.6	1.2	2.7	3.9	. .	. .	. .	50 1.14	0.27	18.33	11 50 19.74	13.32
	Lacaille 4976	25	57.9	0.2	1.7	12.9	14.1	15.5	17.1	18.4	30.0	31.5	33.9	54 15.75	+ 0.04	18.33	11 54 34.12	12.30
	Lacaille 4993	26	. .	. .	. .	27.5	28.6	30.3	31.9	33.2	45.5	46.8	49.5	56 36.66	— 6.27	18.33	11 56 48.72	12.18
	Lacaille 5016	27	42.5	45.1	46.6	58.6	0.1	1.4	2.9	4.2	16.5	18.0	20.4	59 1.48	+ 0.04	18.32	11 59 19.84	12.23
	ϵ Corvi	28	39.4	41.5	42.9	53.1	54.2	55.5	56.7	57.9	8.2	9.4	11.8	2 55.51	0.06	18.32	12 3 13.89	12.65
	O. Arg. S. 12037	29	30.2	32.2	33.8	44.7	45.7	47.2	48.5	49.8	0.6	2.1	4.2	8 47.18	0.05	18.32	12 9 5.55	12.58
	* — 27° 45′	30	26.0	28.1	29.6	40.3	41.3	42.8	44.2	45.4	56.3	57.6	0.0	12 42.87	+ 0.05	18.31	12 13 1.23	12.64
	Dorpat 1636, (1st *)	31	. .	. .	. .	. .	. .	. .	54.6	56.3	57.7	59.0	0.3	15 57.58	— 33.74	18.31	12 15 42.15	12.87
	Dorpat 1636, (2d *)	32	9.0	11.2	12.4	22.0	23.0	24.2	25.4	26.5	36.1	37.3	39.4	15 24.23	+ 0.10	18.31	12 15 42.64	12.87
	B. A. C. 4214	33	42.0	44.1	45.5	56.0	57.0	58.2	59.4	0.5	11.0	12.4	14.4	22 58.23	+ 0.05	18.30	12 23 16.58	12.78
	O. Arg. S. 12232	34	. .	. .	. .	24.4	25.6	26.8	28.3	29.5	40.5	41.9	44.4	25 32.68	— 5.63	18.30	12 25 45.35	12.76
	B. A. C. 4255	35	16.2	18.2	19.4	28.9	29.9	31.0	32.2	33.3	43.1	44.2	46.3	31 31.15	+ 0.08	18.30	12 31 49.53	12.83
	O. Arg. S. 12342	36	47.6	49.4	51.0	1.4	2.5	3.7	5.0	6.2	17.0	18.2	20.4	34 3.85	0.05	18.30	12 34 22.20	12.87
	Weisse 632	37	37.2	39.2	40.5	50.3	51.5	52.6	53.8	54.7	4.7	6.0	8.2	37 52.61	+ 0.12	18.29	12 38 11.02	12.64
	Weisse 646	38	. .	. .	. .	21.6	22.5	23.8	25.0	26.1	36.0	37.3	39.5	38 28.98	— 4.99	18.29	12 38 42.28	12.63
	Weisse 652	39	. .	. .	. .	50.9	51.8	53.0	54.3	55.4	5.3	6.5	8.7	38 58.24	— 4.99	18.29	12 39 11.54	12.63
	Weisse 728	40	54.5	56.5	57.8	7.4	8.6	9.7	11.0	12.0	21.9	23.1	25.2	43 9.79	+ 0.07	18.29	12 43 28.15	12.89
	Weisse 834	41	50.1	52.1	53.4	3.1	4.1	5.4	6.6	7.6	17.5	18.8	20.9	49 5.42	0.07	18.28	12 49 23.77	12.93
	46 Virginis	42	8.1	10.2	11.5	20.9	22.0	23.2	24.4	25.5	35.1	36.3	38.5	53 23.25	+ 0.09	18.28	12 53 41.62	12.79
	Polaris, S. P.	43	. .	. .	. .	42.0	2.0	13.0	24.0	41.0	. .	. .	. .	9 12.40	— 9.59	18.27	1 9 21.08	117.88
	α Virginis	44	34.2	36.3	37.6	47.2	48.2	49.4	50.6	51.7	1.7	2.7	4.8	17 49.49	+ 0.11	18.26	13 18 7.86	12.94
	ζ Virginis	45	18.3	20.3	21.6	31.0	32.1	33.3	34.5	35.6	45.2	46.3	48.3	27 33.32	+ 0.09	18.25	13 27 51.66	12.59
	Saturn I	46	27.0	28.2	29.6	30.9	33.2	. .	33.7	36.2	37.5	38.8	40.1	41 3.52	— 0.13	18.24	13 41 21.63	. .
	Saturn II	47	49.6	51.4	52.8	2.2	3.3	4.6	5.7	6.8	16.4	17.7	19.8	41 4.57	+ 0.10	18.24	13 41 22.91	. .
	η Bootis	48	43.8	45.9	47.2	. .	. .	. .	. .	. .	. .	. .	. .	47 45.63	14.11	18.23	13 48 17.97	+ 11.75
27	Sun I	49	36.5	38.4	39.8	49.4	50.5	51.7	53.1	54.2	4.0	5.3	7.3	19 51.84	0.14	17.52	2 19 9.50	. .
	Sun II	50	47.9	49.7	51.2	0.9	1.9	3.2	4.4	5.4	15.4	16.7	18.9	21 3.24	+ 0.14	+17.52	2 21 20.90	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
April 26,	9.4	+ 18.45	— 0.049	+ 0.09

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 27		Venus I	1	39.4	41.5	43.0	53.2	54.4	55.7	56.9	58.2	8.6	9.8	12.2	16 55.72	+ 0.17	+17.48	3 17 13.37	+ 2.05
Tr.	α	Aurigæ	2	4.8	7.4	9.4	23.0	24.4	26.1	27.8	29.3	43.1	44.8	47.7	6 26.16	0.28	17.39	5 6 43.83	11.37
	β	Orionis	3	30.8	32.7	34.0	43.7	44.7	45.9	47.1	48.2	57.9	59.1	1.2	7 45.94	0.08	17.39		14.09
	β	Tauri	4	11.7	13.8	15.4	26.2	27.2	28.5	29.9	31.2	42.3	43.6	45.9	17 28.70	0.19	17.39		18.21
Y.	α	Orionis	5	19.9	21.9	23.2	32.7	33.8	34.9	36.1	37.2	46.9	48.1	50.2	47 34.99	0.12	17.39	5 47 52.50	15.58
		* — 22° 32′ . .	6	1.1	3.2	4.6	14.8	15.8	17.1	18.4	19.5	30.0	31.3	33.5	52 17.21	0.05	17.14	10 52 34.40	12.21
	χ	Leonis	7	32.9	34.9	36.3	45.6	46.7	47.8	49.0	50.1	59.9	1.1	3.2	57 47.95	0.12	17.14	10 58 5.21	13.36
		O. Arg. N. 11518 .	8	56.3	0.2	2.9	21.3	23.4	25.8	28.1	30.3	49.3	51.7	55.7	3 25.91	0.42	17.14	11 3 43.47	15.86
		(* 124) W. . . .	9	. .	. .	. .	6.4	8.5	10.6	12.9	15.0	. .	. .	. .	5 10.68	0.51	17.13	11 5 28.32	15.70
		O. Arg. N. 11674 .	10	50.5	57.1	1.4	32.7	36.1	40.2	43.9	47.6	19.7	23.5	30.2	12 40.26	0.73	17.13	11 12 58.12	16.82
		Vesta	11	39.0	41.1	42.3	52.2	53.2	54.5	55.7	56.8	6.8	8.0	10.2	16 54.53	0.14	17.13	11 17 11.80	. .
		(* 123) W. . . .	12	53.5	0.3	4.2	35.2	38.5	42.5	46.3	49.7	21.3	25.2	32.1	22 42.62	0.73	17.12	11 23 0.47	15.83
		Σ Cat. Gen. 1326 .	13	. .	. .	. .	55.7	59.1	3.0	6.3	10.0	. .	. .	. .	27 2.82	0.85	17.12	11 27 20.79	15.34
		Weisse 624 . . .	14	55.2	57.3	58.4	8.0	8.9	10.2	11.4	12.4	22.1	23.2	25.2	36 10.21	+ 0.10	17.11	11 36 27.42	13.03
	β	Leonis	15	. .	. .	. .	53.0	54.1	55.4	56.6	57.6	7.6	8.9	11.0	42 0.52	— 5.00	17.10	11 42 12.62	13.05
		Weisse 785 . . .	16	29.2	31.2	32.5	42.3	43.3	44.6	45.8	46.8	56.8	58.0	0.1	45 44.60	+ 0.14	17.10	11 46 1.84	13.18
		Radcliffe 2768 . .	17	. .	. .	. .	36.9	38.2	39.9	41.6	42.7	. .	. .	. .	49 39.86	0.31	17.10	11 49 57.27	13.34
		Radcliffe 2771 . .	18	. .	. .	. .	59.3	0.6	2.3	3.9	5.2	. .	. .	. .	50 2.26	0.31	17.10	11 50 19.67	13.33
		O. Arg. S. 11876 .	19	6.7	9.1	10.6	21.6	22.7	. .	25.4	26.6	38.0	39.1	41.3	57 24.11	+ 0.03	17.09	11 57 41.23	12.43
		O. Arg. S. 11920 .	20	. .	. .	. .	40.0	41.4	43.6	0.0	2.6	4.0	5.4	6.8	0 55.48	— 28.24	17.09	12 0 44.33	12.62
		Weisse 34 . . .	21	. .	. .	. .	51.1	52.2	53.3	54.6	55.7	5.3	6.5	8.7	3 58.42	— 4.90	17.09	12 4 10.61	12.96
		* — 25° 18′ . .	22	55.1	57.2	58.5	9.0	10.1	11.5	12.7	14.0	24.5	25.9	28.2	12 11.52	+ 0.05	17.08	12 12 28.65	12.68
		O. Arg. S. 12116 .	23	54.9	[illegible]	[illegible]	8.7	9.8	11.0	12.4	13.5	24.0	25.3	27.5	15 11.14	0.05	17.08	12 15 28.27	12.72
	β	Corvi	24	47.7	49.[illegible]	1.1	1.4	2.5	3.8	5.0	6.1	16.5	17.9	20.0	27 3.80	+ 0.05	17.07	12 27 20.92	12.89
		Polaris, S. P. . .	25	17.0	59.5	5.0	42.5	1.0	11.5	23.5	41.0	10.0	21.0	0.0	9 10.18	— 9.34	17.04		117.40
		Saturn I	26	32.7	34.8	36.2	45.6	46.6	47.8	49.0	50.0	59.7	0.9	2.8	40 47.83	+ 0.08	17.01	13 41 4.92	. .
		Saturn II . . .	27	12.8	14.1	15.4	16.5	18.8	. .	19.5	21.7	23.0	24.4	25.6	40 49.18	— 0.15	17.01	13 41 6.04	. .
	η	Bootis	28	45.0	47.0	48.4	58.4	59.5	0.7	2.0	3.1	13.4	14.5	16.8	48 0.80	+ 0.15	17.00	13 48 17.95	11.76
	τ	Virginis	29	17.3	19.4	20.5	29.9	31.0	32.2	33.3	34.4	44.1	45.2	47.2	54 32.23	0.11	17.00	13 54 49.34	+ 12.57
28		Sun II	30	36.5	38.6	39.9	49.8	50.8	52.0	53.2	54.3	4.4	5.5	7.6	24 52.05	0.14	16.17	2 25 8.36	— 65.80
Tr.	α	Tauri	31	39.3	41.3	42.6	52.5	53.6	54.8	56.0	57.2	7.2	8.5	10.5	27 54.86	0.14	16.06	4 28 11.06	+ 16.68
	β	Orionis	32	32.1	34.2	35.5	45.0	46.0	47.2	48.5	49.6	59.3	0.5	2.5	7 47.31	0.08	16.03	5 8 3.42	14.10
	β	Tauri	33	13.1	15.2	16.8	27.4	28.5	30.0	31.4	32.6	43.5	44.8	47.2	17 30.05	0.19	16.02	5 17 46.26	18.22
		Moon I	34	42.9	44.8	46.3	56.4	57.5	58.9	0.3	1.5	11.6	13.0	15.1	25 58.94	0.15	16.01	5 26 15.10	. .
	ϵ	Orionis	35	51.2	53.2	54.6	4.0	5.0	6.1	7.3	8.4	18.1	19.3	21.3	29 6.23	0.10	16.01	5 29 22.34	14.74
	α	Orionis	36	21.3	23.3	24.5	34.1	35.1	36.3	37.5	38.6	48.3	49.4	51.5	47 36.35	0.12	. .		15.59
E.	l	Leonis	37	40.4	42.4	43.7	53.3	54.5	55.6	56.9	58.0	7.7	8.9	11.0	41 55.67	0.13	15.74	10 42 11.54	13.79
		Dorpat 1487, (1st *)	38	47.6	49.6	51.1	. .	. .	. .	. .	. .	17.0	18.4	20.6	48 4.05	+ 0.13	15.74	10 48 19.92	14.30
		Dorpat 1487, (2d *)	39	2.1	3.2	4.5	5.8	6.9	. .	37.9	40.7	42.0	43.4	44.8	48 23.13	— 18.44	15.74	10 48 20.43	14.30
		Weisse (2) 1017 .	40	. .	. .	. .	20.4	21.6	23.9	40.3	42.8	44.2	45.5	46.9	51 35.70	— 28.00	15.74	10 51 23.44	14.12
		* — 32° 9′ . . .	41	40.8	43.2	44.8	6.0	7.2	8.7	10.2	11.3	22.9	24.2	26.7	55 8.73	+ 0.04	15.73	10 55 24.50	11.70
		Weisse 1049 . .	42	34.1	36.1	37.5	47.0	48.2	49.4	50.7	51.7	1.5	2.8	5.0	58 49.45	0.13	15.73	10 59 5.31	13.67
		Lacaille 4766 . .	43	37.6	40.0	41.7	54.0	55.2	56.7	58.2	59.4	11.9	13.3	16.0	23 56.73	0.02	15.71	11 24 12.46	11.68
		* — 5° 45′ . . .	44	53.2	55.1	56.4	6.0	7.0	8.1	9.3	10.3	20.0	21.2	23.3	28 8.17	0.09	15.70	11 28 23.96	12.92
		B. A. C. 3962 . .	45	0.5	2.4	3.6	13.0	14.1	15.2	16.3	17.5	27.2	28.2	30.3	33 15.30	0.10	15.70	11 33 31.10	13.07
		Weisse 624 . . .	46	. .	58.6	59.9	9.3	10.4	11.5	12.7	13.7	23.5	24.6	. .	36 11.58	0.11	15.70	11 36 27.39	13.04
	β	Leonis	47	41.2	43.2	44.5	54.4	55.4	56.6	57.8	58.8	8.9	10.1	12.3	41 56.65	+ 0.14	15.69	11 42 12.48	13.06
		Weisse 785 . . .	48	43.7	44.8	46.0	47.2	48.2	. .	17.0	19.5	20.8	22.3	23.5	46 3.30	— 17.19	15.69	11 46 1.80	13.18
		Radcliffe 2768 . .	49	. .	. .	. .	. .	. .	. .	21.2	24.4	26.2	28.0	29.6	50 25.88	— 44.40	15.68	11 49 57.16	13.35
		Radcliffe 2769 . .	50	34.3	36.8	38.4	. .	. .	. .	. .	. .	9.6	11.2	13.9	49 54.03	+ 0.20	+15.68	11 50 9.91	+ 13.35

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
April 27,	5.2 + 17.39	— 0.048	+ 0.10
	11.4 17.12	0.048	
28,	5.1 16.03	0.051	
	12.3 + 15.66	— 0.051	

s.
April 27, n. = + 0.13.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 28	Radcliffe 2771	1	..	..	..	0.6	1.9	3.7	5.0	6.6	..	..	..	50 3.56	+ 0.31	+15.68	11 50 19.55	+ 13.35
E.	Lacaille 4993	2	13.9	16.5	17.9	30.2	31.4	33.0	34.5	35.8	48.0	49.5	52.4	56 33.01	0.02	15.68	11 56 48.71	12.19
	Lacaille 5016	3	45.2	47.6	49.2	1.4	2.5	4.0	5.4	6.8	19.0	20.5	23.2	59 4.08	+ 0.03	15.68	11 59 19.79	12.25
	Dorpat 1604, (1st *)	4	40.0	41.3	42.6	43.9	46.2	..	47.5	50.0	51.2	52.4	54.0	2 16.91	— 0.15	15.67	12 2 32.43	12.81
	Dorpat 1604, (2d *)	5	4.6	6.7	8.0	17.5	18.5	19.8	21.2	22.3	31.9	33.1	34.5	2 19.83	+ 0.08	15.67	12 2 35.58	12.81
	Lacaille 5450	6	..	..	..	26.9	28.2	30.9	50.2	53.1	54.9	56.6	58.1	6 44.86	— 33.05	15.67	12 6 27.48	12.35
	O. Arg. S. 12037	7	33.1	35.4	36.8	47.5	48.9	50.2	51.5	52.6	3.8	5.0	7.4	8 50.20	+ 0.04	15.67	12 9 5.91	12.60
η	Virginis	8	31.7	33.6	35.0	44.5	45.5	46.7	47.9	49.0	58.7	59.7	1.7	12 46.73	+ 0.10	15.66	12 13 2.49	12.85
	Dorpat 1636, (1st *)	9	50.2	51.5	52.9	54.0	56.4	..	56.6	59.1	0.3	1.6	3.0	15 26.56	— 0.11	15.66	12 15 42.11	12.88
	Dorpat 1636, (2d *)	10	1.7	3.8	5.0	24.7	25.7	26.8	28.0	29.1	38.7	39.8	41.9	15 26.84	+ 0.12	15.66	12 15 42.62	12.38
θ	Virginis	11	29.7	31.7	32.9	42.3	43.5	44.7	45.9	47.0	56.6	57.8	59.8	2 44.72	+ 0.09	15.62	13 3 0.43	12.81
	Polaris, S. P.	12	..	..	..	46.0	5.0	15.0	30.0	45.0	..	..	..	9 16.20	— 11.21	15.62		116.94
	Lacaille 5514	13	4.4	6.6	8.1	19.4	20.6	21.9	23.3	24.6	36.0	37.5	39.9	15 22.03	+ 0.04	15.61	13 15 37.68	13.41
	Weisse 354	14	12.9	14.9	16.2	25.6	26.6	27.7	28.9	30.0	39.6	40.7	42.6	22 27.79	0.11	15.60	13 22 43.50	12.62
	* — 31° 40′	15	37.4	39.7	41.3	52.2	53.4	54.9	56.3	57.4	8.9	10.1	12.6	27 54.93	0.04	15.60	13 28 10.57	13.56
	O. Arg. S. 13005	16	20.6	22.8	24.4	34.6	35.5	36.8	38.0	39.3	49.8	51.1	53.1	30 36.91	0.05	15.60	13 30 52.56	13.35
	Lacaille 5649	17	6.0	8.3	9.7	21.2	22.3	23.7	25.1	26.4	37.9	39.3	41.7	34 23.78	+ 0.03	15.60	13 34 39.41	13.70
	Saturn I	18	56.2	57.5	58.7	59.9	2.2	..	2.9	5.3	6.5	7.8	9.1	40 32.61	— 0.14	15.59	13 40 48.06	..
	Saturn II	19	18.5	20.5	21.8	31.3	32.3	33.5	34.6	35.8	45.6	46.7	48.8	40 33.58	+ 0.09	15.59	13 40 49.26	..
	O. Arg. S. 13215	20	36.8	39.0	40.3	50.8	52.0	53.2	54.5	55.7	6.5	7.8	10.1	45 53.34	0.05	15.59	13 46 8.98	13.60
η	Bootis	21	46.4	48.5	49.8	59.8	0.9	2.0	3.3	4.4	14.7	15.9	18.2	48 2.17	0.15	15.58	13 48 17.90	11.76
29	β Corvi	22	49.2	51.5	52.8	3.0	4.3	5.5	6.8	7.8	18.4	19.6	21.7	27 5.51	+ 0.27	15.09	12 27 20.87	12.81
Tr.	γ^1 Virginis	23	0.6	1.8	3.2	4.3	6.5	..	6.9	9.2	10.6	11.7	12.9	34 36.77	— 0.13	15.09	12 34 51.73	12.82
	γ^2 Virginis	24	21.6	23.6	25.0	34.3	35.5	36.7	37.7	38.8	48.3	49 5	51.8	34 36.62	+ 0.10	15.09	12 34 51.81	12.82
	O. Arg. N. 12996	25	41.8	50.8	57.2	43.2	48.0	53.6	59.4	5.4	53.3	57.1	6.9	40 54.25	— 1.41	15.09	12 41 7.93	5.96
	38 Virginis	26	48.7	50.9	52.2	1.5	2.6	3.7	4.9	6.0	15.7	16.8	18.9	46 3.81	+ 0.12	15.09	12 46 19.02	12.81
	O. Arg. S. 12538	27	30.3	32.6	34.0	44.2	45.2	46.4	47.8	48.9	59.3	0.6	2.6	49 46.54	0.26	15.09	12 50 1.89	13.00
	O. Arg. S. 12564	28	45.6	48.0	49.3	59.3	0.2	1.6	2.9	4.2	14.2	15.5	17.9	52 1.70	0.26	15.08	12 52 17.04	13.01
	* — 16° 55′	29	24.8	26.8	28.4	38.2	39.2	40.4	41.8	43.0	53.0	54.3	56.4	56 40.57	0.23	15.08	12 56 55.88	13.00
	Polaris, S. P.	30	..	..	..	37.0	51.0	56.0	8.0	24.0	..	..	..	8 55.20	+ 10.31	15.08	1 9 20.59	116.52
α	Virginis	31	..	..	..	50.3	51.4	52.5	53.8	55.0	4.6	5.6	7.8	17 57.62	— 4.86	15.07	13 18 7.85	12.93
ζ	Virginis	32	21.6	23.6	24.8	34.3	35.4	36.5	37.7	38.8	48.4	49.7	51.6	27 36.58	+ 0.10	15.07	13 27 51.75	12.58
	Lacaille 5649, (1st *)	33	..	..	..	..	..	..	0.2	3.1	4.6	5.9	7.6	35 4.28	— 39.86	15.07	13 34 39.49	13.70
	Lacaille 5649, (2d *)	34	6.2	8.4	10.1	21.4	22.6	23.9	25.4	26.8	38.2	39.7	42.1	34 24.07	+ 0.38	15.07	13 34 39.52	13.70
	Saturn I	35	40.0	41.4	42.8	44.0	46.2	..	46.6	49.3	50.7	51.9	53.1	40 16.60	— 0.08	15.07	13 40 31.59	..
	Saturn II	36	2.6	4.5	5.7	15.3	16.3	17.6	18.8	20.0	29.4	30.8	33.0	40 17.64	+ 0.15	15.07	13 40 32.86	..
	Weisse 708	37	16.3	18.3	19.5	29.1	30.3	31.4	32.6	33.7	43.3	44.6	46.6	41 31.43	+ 0.15	15.07	13 41 46.65	12.92
η	Bootis	38	47.1	49.2	50.5	0.5	1.5	2.9	4.0	5.4	15.3	16.6	18.8	48 2.89	— 0.03	15.06	13 48 17.92	11.76
	* — 36° 50′	39	37.2	39.5	41.3	53.2	54.3	55.8	57.6	58.9	10.7	12.5	15.1	50 56.01	+ 0.43	15.06	13 51 11.50	14.09
	Brisbane 4727	40	35.4	38.1	39.6	51.4	52.6	54.1	55.4	56.7	8.9	10.2	13.0	52 54.13	0.43	15.06	13 53 9.62	14.12
	* — 26° 2′	41	23.2	25.3	26.6	37.4	38.5	39.8	41.1	42.1	52.9	54.2	56.6	0 39.79	+ 0.31	15.06	14 0 55.16	13.75
	O. Arg. S. 13438	42	..	..	..	40.6	42.0	44.1	1.0	3.4	5.0	6.4	7.8	3 56.29	— 28.55	15.06	14 3 42.80	13.75
α	Bootis	†43	2.1	4.1	5.4	15.4	16.4	17.6	18.8	20.1	30.2	31.7	33.8	9 17.78	0.04	15.06	14 9 32.80	11.14
30	Polaris	44	..	..	..	..	..	..	..	..	17.0	9.0	28.0	18 18.00	9 12.22	13.36	1 9 19.14	115.94
May 1	β Tauri	45	16.3	18.4	..	30.7	32.0	33.3	34.5	35.7	46.8	48.1	50.4	17 34.62	— 1.43	13.16	5 17 46.35	18.25
	ϵ Orionis	46	54.3	56.0	57.3	6.9	7.8	9.0	10.2	11.2	..	..	..	29 4.09	+ 5.10	13.15	5 29 22.34	14.77
	μ Geminorum	47	..	..	..	32.9	34.1	35.3	36.6	37.8	48.3	49.4	51.9	14 40.80	— 5.43	13.12	6 14 48.49	17.33
	γ Geminorum	48	26.9	28.9	30.4	40.2	41.3	42.5	43.7	44.9	55.0	56.2	58.2	29 42.56	— 0.01	13.10	6 29 55.65	16.49
	α Canis Majoris	49	43.5	45.5	46.8	56.7	57.7	59.0	0.2	1.3	11.2	12.6	14.7	38 59.02	+ 0.22	13.10	6 38 46.34	12.67
	ϵ Canis Majoris	50	49.1	51.3	52.7	3.5	4.8	6.3	7.5	8.7	19.8	21.2	23.3	53 6.20	+ 0.32	+13.09	6 53 19.61	+ 11.34

43. Blurred.

April 29–May 1. P. S. P., P., and P. S. P., n. = $-0.^{s}40$.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 29, 13.5	+ 15.07	— 0.023	+ 0.10

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 1	α^1 Geminorum	1	4.2	5.8	7.4	8.8	11.6	..	22.4	25.3	26.7	28.4	29.9	25 47.05	— 0.41	+13.06	7 25 59.70	+ 15.11
Tr.	α^2 Geminorum	2	29.5	31.8	33.4	44.5	45.8	47.2	48.6	49.8	1.2	2.5	4.9	25 47.20	— 0.14	13.06	7 26 0.12	15.05
	α Canis Minoris	3	47.0	49.0	50.3	59.7	0.7	1.8	3.0	4.1	13.9	15.1	17.1	32 1.97	+ 0.06	13.07	7 32 15.10	14.68
	ζ^1 Cancri	4	0.7	2.6	4.0	13.9	15.0	16.2	17.5	18.6	28.7	30.0	32.1	4 16.30	— 0.03	13.03	8 4 29.30	15.36
	Moon I	5	36.2	38.4	39.7	49.7	50.7	52.0	53.3	54.4	4.6	5.8	7.9	15 52.06	0.00	13.02	8 16 5.08	..
E.	Dorpat 1487, (1st *)	6	27.4	28.8	30.1	31.5	34.1	..	40.6	43.1	44.7	46.0	47.4	48 7.37	0.33	12.83	10 48 19.87	14.34
	Dorpat 1487, (2d *)	7	51.1	53.4	54.7	5.1	6.3	7.9	9.1	10.2	20.8	22.0	24.3	48 7.72	— 0.08	12.83	10 48 20.47	14.34
	* — 33° 9′	8	53.5	54.6	57.1	8.6	9.7	11.1	12.5	13.7	25.3	26.7	29.2	55 11.09	+ 0.38	12.83	10 55 24.30	11.68
	χ Leonis	9	37.2	39.2	40.5	50.0	51.2	52.3	53.4	54.6	4.3	5.5	7.5	57 52.34	0.04	12.82	10 58 5.20	13.41
	O. Arg. S. 11147	10	55.3	57.6	59.0	9.9	11.1	12.4	13.7	14.9	25.9	27.4	29.8	0 12.45	0.34	12.82	11 0 25.61	11.93
	Lacaille 4616	11	49.5	52.1	53.7	5.9	7.3	8.6	10.1	11.5	23.9	25.4	28.0	2 8.73	0.45	12.82	11 2 22.00	11.39
	Lacaille 4638	12	55.6	57.7	59.0	9.6	10.8	12.1	13.3	14.4	25.4	26.8	28.9	5 12.24	+ 0.30	12.81	11 5 25.35	12.19
	O. Arg. N. 11590	13	43.4	46.3	49.6	53.0	56.4	..	18.1	24.8	28.5	32.1	36.0	8 38.82	— 49.83	12.81	11 8 1.80	16.97
	O. Arg. N. 11619	14	..	..	..	..	..	..	28.0	34.5	38.0	42.5	46.0	10 37.80	1 38.92	12.81	11 9 11.69	16.87
	(* 123) W.	15	59.4	6.1	10.3	41.0	44.6	48.5	52.4	55.3	27.2	31.2	37.9	22 48.54	0.92	12.80	11 23 0.42	16.09
	Weisse 429	16	..	..	..	..	..	..	1.3	3.5	4.8	6.0	7.2	26 4.56	33.57	12.80	11 25 43.79	13.15
	υ Leonis	17	..	..	..	3.5	4.7	6.6	21.8	24.3	25.5	27.0	28.1	30 17.69	— 25.91	12.79	11 30 4.57	13.07
	Lacaille 4830	18	13.0	15.4	17.2	29.4	30.6	32.2	33.6	34.9	47.5	48.9	51.4	32 32.19	+ 0.45	12.79	11 32 45.43	11.55
	* — 37° 12′	19	14.5	17.0	18.6	30.5	31.5	33.3	34.6	35.9	48.3	49.7	52.5	21 33.31	0.43	12.74	12 21 46.48	12.58
	O. Arg. S. 12219	20	2.3	4.5	6.1	17.0	18.2	19.6	21.0	22.2	33.4	34.7	37.1	24 19.65	0.35	12.74	12 24 32.74	12.76
	β Corvi	21	51.8	53.8	55.1	5.4	6.5	7.8	9.1	10.2	20.6	21.9	24.2	27 7.86	0.27	12.73	12 27 20.86	12.82
	Lacaille 5234	22	30.5	33.0	34.7	46.6	47.9	49.4	50.9	52.4	4.2	5.7	8.3	32 49.42	0.43	12.73	12 33 2.58	12.82
	* — 35° 16′	23	28.0	30.4	31.8	43.6	44.9	46.4	47.7	49.0	0.7	2.2	4.6	35 46.30	0.41	12.72	12 35 59.43	12.88
	Weisse 632	24	43.0	45.0	46.4	56.0	57.2	58.4	59.6	0.7	10.4	11.6	13.8	37 58.37	0.00	12.72	12 38 11.09	12.66
	Weisse 652	25	43.5	45.5	46.8	56.5	57.6	58.6	59.9	1.0	11.0	12.2	14.3	38 58.81	0.00	12.72	12 39 11.53	12.65
	Lalande 23832	26	52.6	54.5	55.6	5.5	6.5	7.7	8.9	10.0	19.9	21.2	23.4	40 7.84	0.00	12.72	12 40 20.56	12.64
	* — 25° 7′	†27	59.0	1.1	2.6	12.9	14.0	15.3	16.7	17.7	28.4	29.7	32.2	44 15.42	0.30	12.72	12 44 28.44	12.98
	Lacaille 5326	28	47.0	49.4	50.8	1.5	2.8	4.2	5.5	6.6	17.8	19.2	21.6	48 4.22	+ 0.34	12.71	12 48 17.27	13.04
	Weisse 834	29	8.6	9.6	10.8	12.1	13.2	..	42.1	44.5	45.7	47.1	48.6	49 28.23	— 17.12	12.71	12 49 23.82	12.94
	* — 37° 3′	†30	33.7	36.5	38.3	49.8	50.9	52.5	54.0	55.3	7.5	8.8	11.4	56 52.62	+ 0.43	12.70	12 57 5.75	13.20
	θ Virginis	31	32.5	34.5	35.7	45.5	46.4	47.6	48.7	49.8	59.6	0.6	2.8	2 47.61	• 0.14	12.70	13 3 0.45	12.81
	Polaris, S. P.	32	..	..	..	24.0	41.0	54.0	8.0	23.0	..	..	..	8 54.00	10.31	12.69	1 9 17.00	115.76
	O. Arg. S. 12808	33	59.1	1.3	2.7	12.9	14.0	15.2	16.6	17.8	28.2	29.4	31.8	13 15.37	0.28	12.69	13 13 28.34	13.20
	Lacaille 5514	34	7.0	9.2	10.8	22.0	23.1	24.5	26.0	27.3	38.7	40.0	42.4	15 24.64	0.38	12.68	13 15 37.70	13.41
	Weisse 354	35	15.9	17.8	19.0	28.6	29.6	30.8	32.0	33.1	42.6	43.7	45.9	22 30.82	0.09	12.68	13 22 43.59	12.62
	* — 36° 51′	36	48.9	51.0	52.5	4.5	5.9	7.2	8.8	10.1	22.2	23.7	26.2	27 7.36	0.43	12.67	13 27 20.46	13.69
	* — 22° 55′	37	19.3	21.3	22.6	33.0	34.1	35.5	36.7	37.8	48.3	49.5	51.7	29 35.44	0.28	12.67	13 29 48.39	13.34
	* — 30° 11′	38	20.0	22.2	23.7	34.5	35.6	37.0	38.4	39.6	50.8	52.3	54.6	31 37.15	0.35	12.67	13 31 50.17	13.56
	Lacaille 5649, (S. *)	39	43.3	44.9	46.4	47.7	50.5	..	2.6	5.4	6.9	8.5	10.0	34 26.62	0.11	12.67	13 34 39.40	13.70
	Lacaille 5649, (N. *)	40	8.6	10.8	12.4	23.6	24.8	26.3	27.7	28.9	40.5	42.1	44.4	34 26.37	0.38	12.67	13 34 39.42	13.70
	Saturn I	†41	30.8	32.7	34.0	43.7	44.7	45.8	47.0	48.2	57.8	59.0	1.1	39 45.89	+ 0.16	12.68	13 39 58.73	..
	Saturn II	†42	10.9	12.5	13.6	14.7	17.1	..	17.6	20.0	21.2	22.5	23.9	39 47.40	— 0.07	12.68	13 40 0.01	..
	* — 37° 55′	43	49.8	52.6	54.3	6.2	7.5	..	10.6	11.9	24.1	25.8	28.1	44 9.09	+ 0.43	12.66	13 44 22.18	14.01
	O. Arg. S. 13215	44	..	..	..	53.6	54.8	56.0	57.4	58.6	..	..	..	45 56.08	+ 0.36	12.65	13 46 9.09	13.59
	η Bootis	45	49.6	51.5	53.0	3.0	4.1	5.4	6.6	7.8	17.9	19.2	21.3	48 5.40	— 0.03	12.65	13 48 18.02	11.76
2	ε Hydræ	46	..	..	..	39.7	40.9	42.9	58.2	0.6	1.9	3.1	4.5	39 53.98	26.14	11.11	8 39 38.95	14.53
Y.	Moon I	47	..	..	..	..	..	..	..	13.2	14.7	16.0	17.3	7 15.30	— 35.82	11.09	9 6 50.57	..
	α Hydræ	48	32.6	34.5	35.8	45.3	46.4	47.6	48.8	49.8	59.5	0.8	2.8	20 47.63	+ 0.15	11.08	9 20 58.86	13.14
	β Cephei, S. P.	49	27.3	21.5	17.7	50.1	47.2	43.5	40.3	37.1	9.0	5.4	59.9	26 43.55	+ 0.64	11.08	21 26 55.27	2.93
	10 Leonis	50	..	..	..	53 3	54.2	55.4	56.6	57.7	7.4	8.6	10.7	29 0.49	— 4.94	+11.07	9 29 6.62	+ 14.25

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
May 1,	6.6	+ 13.10	— 0.050	+ 0.10
	12.0	+ 12.76	— 0.060	

27. Faint.
30. Faint.
41. Blurred.
42. Blurred.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 2	o	Leonis	1	32.0	34.1	35.4	45.0	46.0	47.2	48.4	49.5	59.2	0.6	2.5	33 47.26	+ 0.04	+11.06	9 33 58.36	+ 14.43
Y.	ε	Leonis	2	45.4	46.6	48.9	59.4	0.4	1.7	2.9	4.2	14.8	16.1	18.2	38 1.69	— 0.05	11.06	9 38 12.70	15.40
		Lacaille 4218	3	..	..	..	..	..	..	20.1	22.7	24.1	25.7	27.0	10 23.92	— 37.78	11.03	10 9 57.17	11.70
		* — 22° 57′	4	47.1	49.1	50.5	0.8	1.8	3.2	4.4	5.6	16.0	17.2	19.6	14 3.21	+ 0.25	11.03	10 14 14.49	12.08
		* — 23° 1′	5	42.3	44.4	45.7	56.0	57.1	58.8	59.7	0.9	11.4	12.6	14.9	14 58.53	+ 0.25	11.03	10 15 9.81	12.08
		* — 27° 20′	6	..	..	..	41.5	42.8	45.0	2.9	4.8	6.2	7.6	9.2	16 57.50	— 28.99	11.02	10 16 39.53	11.79
		Lacaille 4298	7	32.0	34.3	35.8	46.9	47.9	49.3	50.7	51.9	3.1	4.5	6.8	20 49.38	+ 0.31	11.02	10 21 0.71	11.59
		Lacaille 4324	8	5.7	6.8	9.2	20.0	21.2	22.5	23.7	25.0	35.9	37.2	39.5	25 22.43	0.29	11.02	10 25 33.74	11.82
		O. Arg. S. 10775	9	1.0	3.2	4.6	15.4	16.5	17.7	19.0	20.3	31.3	32.7	35.0	31 17.88	0.30	11.01	10 31 29.19	11.80
		Lacaille 4412	10	26.9	29.4	31.2	43.4	44.7	46.3	47.7	49.1	1.7	3.4	6.0	35 46.35	+ 0.41	11.01	10 35 57.77	10.95
		Lacaille 4437	11	..	..	..	16.4	17.8	19.4	20.8	22.0	34.0	35.4	37.9	38 25.46	— 5.77	11.01	10 38 30.70	11.30
		* — 36° 14′	12	11.8	14.3	15.9	27.6	28.9	30.2	31.7	33.0	45.0	46.4	49.0	39 30.35	+ 0.37	11.01	10 39 41.73	11.31
		Lacaille 4506	13	0.0	2.4	3.7	14.9	16.1	17.5	18.8	20.0	31.4	32.7	35.3	47 17.53	+ 0.33	11.00	10 47 28.86	11.72
		Weisse (2) 994	14	32.2	34.3	35.8	46.2	47.3	48.6	50.0	51.1	1.8	3.1	5.1	49 48.68	— 0.05	11.00	10 49 59.63	14.29
	χ	Leonis	15	39.2	41.2	42.4	51.9	52.9	54.1	55.3	56.5	6.2	7.4	9.4	57 54.23	+ 0.05	10.99	10 58 5.27	13.42
		Lacaille 4607	16	3.1	5.5	7.1	19.1	20.3	21.8	23.3	24.6	37.0	38.4	40.9	1 21.92	+ 0.39	10.99	11 1 33.30	11.47
		* + 59° 24′	17	51.6	55.6	58.2	16.9	18.9	21.4	23.7	25.7	45.0	47.5	51.2	5 21.43	— 0.38	10.98	11 5 32.03	15.83
		O. Arg. N. 11590	18	..	..	..	26.2	29.9	35.7	19.8	26.9	30.4	34.4	38.1	9 7.68	— 1 16.50	10.98	11 8 2.16	17.01
		O. Arg. S. 11320	19	23.1	25.4	26.7	37.3	38.4	39.6	41.0	42.2	52.7	54.1	56.3	13 39.71	+ 0.27	10.97	11 13 50.95	12.26
		Dorpat 2799	20	36.9	38.9	40.2	49.5	50.5	51.8	52.8	53.9	3.7	4.9	6.7	24 51.80	+ 0.10	10.96	11 25 2.86	13.12
		O. Arg. N. 11901	21	34.3	40.3	43.9	14.1	17.4	20.9	24.5	28.3	57.8	1.6	7.8	29 20.63	— 0.69	10.96	11 29 30.90	15.35
		* + 71° 15′	22	..	..	..	53.0	57.1	3.2	50.5	58.0	1.9	6.4	10.1	31 37.53	1 21.60	10.96	11 30 26.89	15.26
		O. Arg. N. 12020	23	55.6	3.1	8.1	11.7	45.3	49.9	53.8	58.0	32.4	36.7	44.5	36 49.92	0.82	10.95	11 37 0.05	14.85
		O. Arg. S. 11656	24	..	..	..	..	..	..	56.2	59.0	0.3	1.7	3.2	41 0.08	36.91	10.95	11 40 34.12	12.46
		Weisse 785	25	..	..	..	48.5	49.5	50.8	52.1	53.0	2.9	4.2	6.2	45 55.90	5.09	10.94	11 46 1.75	13.21
		O. Arg. N. 12337	26	..	..	..	31.0	35.2	39.9	44.2	48.7	..	.	..	59 39.90	— 0.73	10.93	11 59 50.10	12.29
	ε	Corvi	27	46.4	48.8	49.9	0.0	1.1	2.5	3.8	4.9	15.3	16.5	18.7	3 2.54	+ 0.25	10.92	12 3 13.71	12.69
		O. Arg. S. 12588	28	1.3	3.7	5.0	16.0	17.2	18.6	19.9	21.1	32.5	33.7	36.2	54 18.65	+ 0.31	10.88	12 54 29.84	13.11
		O. Arg. S. 12620	29	..	..	..	53.5	54.5	55.9	57.2	58.4	8.8	10.2	12.5	57 1.38	— 5.23	10.88	12 57 7.03	13.09
	θ	Virginis	30	34.5	36.4	37.7	47.1	48.2	49.3	50.6	51.6	1.3	2.5	4.4	2 49.42	+ 0.13	10.87	13 3 0.42	~~12.61~~
		Polaris, S. P.	31	..	..	..	34.0	52.0	2.5	14.0	31.0	..	..	..	9 2.70	7.88	10.87	1 9 21.45	115.40
		Lacaille 5514	32	8.7	11.1	12.7	23.8	24.9	26.4	27.8	29.1	40.4	41.8	44.3	15 26.45	0.34	10.86	13 15 37.65	13.40
		Weisse 354	33	18.3	20.3	21.4	31.1	32.1	33.2	34.3	35.3	45.1	46.3	48.2	19 33.24	0.09	10.86	13 19 44.19	12.63
		* — 31° 40′	34	17.8	19.8	20.9	30.3	31.5	32.6	33.7	34.9	44.5	45.7	47.7	22 32.67	0.33	10.85	13 22 43.85	13.48
		* — 26° 34′	35	41.8	44.2	45.6	56.8	58.0	59.4	0.8	2.0	13.5	14.8	17.1	27 59.45	0.28	10.85	13 28 10.58	13.41
		* — 37° 41′	36	48.3	50.5	51.9	2.5	3.6	4.9	6.1	7.3	18.3	19.5	21.7	31 4.96	0.39	10.85	13 31 16.20	13.76
		* — 37° 42′	37	40.4	42.7	44.1	56.4	57.6	58.9	0.3	1.9	14.1	15.6	18.0	34 59.09	+ 0.39	10.84	13 35 10.32	13.85
		Saturn I	38	55.5	56.7	57.9	59.1	1.4	..	2.1	4.4	5.7	7.0	8.4	39 31.82	— 0.08	10.84	13 39 42.58	..
		Saturn II	39	17.7	19.6	21.0	30.5	31.5	32.7	33.9	35.0	44.6	45.8	48.0	39 32.75	+ 0.15	10.84	13 39 43.74	..
		* — 37° 27′	40	25.4	27.9	29.4	41.2	42.6	44.0	45.5	46.9	59.2	0.6	3.1	42 44.16	+ 0.39	10.84	13 42 55.39	13.95
		* — 38° 23′	41	..	..	..	16.6	17.8	19.2	20.7	22.0	34.6	35.9	38.6	45 25.68	— 5.92	10.83	13 45 30.59	14.03
		Lacaille 5758	42	15.0	17.5	19.0	31.0	32.1	33.8	35.3	36.4	48.8	50.4	53.0	48 33.85	+ 0.39	10.83	13 48 45.07	14.05
		* — 36° 42′	43	54.4	57.0	58.4	10.3	11.5	13.1	14.5	15.8	27.9	29.4	31.8	52 13.10	+ 0.38	10.83	13 52 24.31	14.07
		Lacaille 5812	44	..	..	..	59.2	0.9	3.3	22.5	25.4	26.9	28.6	30.2	58 17.15	— 32.23	10.82	13 57 55.74	14.18
		Lacaille 5839	45	33.1	35.5	36.9	48.1	49.3	50.7	52.0	53.1	4.5	5.7	8.3	2 50.65	+ 0.33	10.82	14 3 1.81	14.02
		* — 32° 53′	46	0.5	2.9	4.3	15.7	16.9	18.3	19.5	20.8	32.4	33.6	36.3	5 18.29	0.34	10.81	14 5 29.44	14.09
	α	Bootis	47	..	..	..	19.7	20.7	22.0	23.2	24.4	..	..	..	9 22.00	+ 0.03	10.81	14 9 32.84	11.13
Tr.	α	Andromedæ	48	58.7	0.8	2.2	12.9	14.2	15.4	16.9	18.1	29.0	30.4	32.8	1 15.58	— 0.07	10.10		14.68
	γ	Pegasi	49	52.4	54.2	55.6	5.4	6.4	7.8	9.0	10.0	19.9	21.2	23.4	6 7.75	+ 0.02	+10.11		14.73
		Polaris	150	3.0	54.0	43.0	..	..	..	9.0	25.0	..	44.0	38.0	21 13.71	—11 27.49	—24.52	1 9 21.70	+ 115.22

50. Cloudy. Before Polaris the clock stopped.

May 1–2. P. and P. S. P., n. = — 0.34 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
May 2, 11.1	+ 10.98	— 0.056	+ 0.10

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1865.																		
May. 3	Sun I	1	10.4	12.1	13.5	23.2	24.3	25.6	26.6	27.7	38.6	39.3	41.3	42 25.64	+ 0.01	—24.60	2 42 1.05	. .
Tr.	Sun II	2	22.7	24.8	26.0	35.8	36.8	38.0	39.3	40.5	50.5	51.8	53.9	44 38.19	+ 0.01	24.60	2 44 13.60	. .
	Venus I	†3	. .	. .	. .	47.0	48.4	50.7	6.9	9.7	. .	12.7	13.8	6 1.31	— 26.92	24.62	3 5 9.77	+ 2.11
	α Tauri	†4	. .	. .	. .	48.2	49.3	51.5	7.2	9.6	10.9	. .	. .	28 59.45	23.69	24.69	4 28 11.07	16.71
	β Orionis	5	. .	. .	. .	25.6	26.6	27.9	29.0	30.0	40.0	41.2	43.1	8 32.93	— 4.86	24.73	5 8 3.34	14.13
	α Orionis	6	2.1	3.9	5.3	14.8	15.8	17.0	18.2	19.3	29.1	30.3	32.4	48 17.11	+ 0.06	24.76	5 47 52.41	15.63
	α Hydræ	7	8.5	10.4	11.8	21.2	22.3	23.5	24.7	25.8	35.5	36.7	38.7	21 23.56	0.15	24.94	9 20 58.77	13.15
	h Leonis	8	54.5	56.5	57.9	7.4	8.5	9.7	10.9	12.0	21.8	23.0	25.0	25 9.75	0.04	24.94	9 24 44.85	14.52
	10 Leonis	9	16.2	18.2	19.6	29.1	30.1	31.3	32.5	33.6	43.3	44.5	46.5	30 31.35	0.05	24.94	9 30 6.46	14.26
	o Leonis	10	7.9	9.9	11.2	20.7	21.9	23.1	24.3	25.4	35.2	36.4	38.5	34 23.14	0.03	24.95	9 33 58.22	14.44
	B. A. C. 3336	11	14.1	16.0	17 3	26.9	27.9	29.1	30.2	31.4	41.2	42.3	44.3	39 29.15	+ 0.06	24.95	9 39 4.26	14.17
	μ Leonis	12	14.8	17.0	18.3	28.9	30.0	31.4	32.5	34.0	44.7	46.0	48.4	45 31.48	— 0.07	24.96	9 45 6.45	15.41
	π Leonis	13	16.2	18.2	19.4	29.0	30.0	31.2	32.4	33.4	43.3	44.4	46.6	53 31.28	+ 0.05	24.96	9 53 6.37	14.13
	Moon I	14	29.6	31.4	32.9	42.5	43.7	44.9	46.2	47.3	57.0	58.3	0.4	55 44.93	0.06	24.97	9 55 20.02	. .
	α Leonis	15	22.2	24.2	25.6	35.2	36.3	37.6	38.8	39.8	49.6	50.9	52.9	1 37.55	+ 0.02	24.97	10 1 12.60	14.22
	γ Leonis, (1st *)	16	42.5	44.6	45.9	56.0	57.2	58.4	59.6	0.7	11.0	12.3	14.4	12 58.42	— 0.03	24.98	10 12 33.41	14.74
	γ Leonis, (2d *)	17	. .	. .	. .	. .	.	. .	30.9	33.4	34.8	36.0	37.5	13 34.52	35.96	24.98	10 12 33.59	14.65
	* — 10° 7′	18	. .	. .	. .	38.6	39.6	40.8	42.0	43.0	52.9	54.0	56.1	18 45.88	— 4.99	24.98	10 18 15.91	12.90
	Weisse 425	19	13.5	15.6	16.7	26.5	27.5	28.7	29.9	31.0	40.9	42.0	44.1	25 28.76	+ 0.04	24.99	10 25 3.81	13.93
	ρ Leonis	20	53.8	55.7	57.0	6.6	7.7	8.9	10.1	11.2	20.9	22.2	24.2	26 8.94	0.04	24.99	10 25 43.99	13.92
	33 Sextantis	21	44.1	46.0	47.4	56.7	57.8	58.9	0.1	1.2	10.8	11.9	14.0	34 59.00	0.11	25.00	10 34 34.11	13.32
	δ Crateris	22	47.4	49.4	50.8	0.5	1.5	2.6	3.9	5.1	14.9	16.2	18.2	13 2.77	0.20	25.03	11 12 37.94	12.67
	Vesta	23	33.8	35.9	37.2	47.1	48.2	49.3	50.6	51.7	1.8	2.9	4.8	17 49.40	0.07	25.03	11 17 24.44	. .
	(* 123) W.	24	28.8	33.0	37.4	41.4	48.7	37.6	43.9	48.1	. .	. .	. .	22 2.36	1 23.24	25.04	11 23 0.56	16.10
	Weisse 429	25	53.9	55.8	57.1	6.5	7.5	8.7	9.9	10.9	20.6	21.7	23.9	26 8.74	0.09	25.04	11 25 43.79	13.17
	* + 1° 30′	26	54.0	55.9	57.1	6.3	7.5	8.7	9.8	10.9	20.9	21.9	23.8	29 8.80	0.09	25.04	11 28 43.85	13.13
	(* 115) W.	27	45.8	46.9	48.3	17.6	18.6	19.8	21.2	22.2	32.0	33.1	35.0	30 19.97	0.09	25.04	11 29 55.02	13.13
	Weisse 643	28	48.3	50.4	51.5	1.1	2.2	3.3	4.6	5.5	15.4	16.5	18.5	38 3.39	0.15	25.05	11 37 38.49	12.91
	* — 7° 22′	29	22.5	24.5	25.7	35.1	36.2	37.4	38.6	39.6	49.4	50.7	52.7	41 37.49	0.15	25.05	11 41 12.59	12.90
	* — 37° 34′	30	8.0	10.5	12.2	24.3	25.5	26.9	28.6	29.9	41.9	43.3	46.1	46 27.02	0.41	25.06	11 46 2.37	12.11
	(* 113) W.	31	10.1	12.1	13.5	22.8	23.7	24.9	26.5	27.6	37.0	38.0	41.0	52 25.12	0.11	25.06	11 52 0.17	12.98
	Weisse 980	32	. .	. .	. .	26.0	27.0	28.3	29.5	30.6	. .	. .	. .	58 28.28	0.09	25.07	11 58 3.30	13.06
	o Virginis	33	32.2	34.2	35.4	45.1	46.1	47.3	48.4	49.5	59.3	0.5	2.5	58 47.32	0.04	25.07	11 58 22.29	12.98
	Weisse 1030	34	29.7	31.8	33.2	42.6	43.6	44.8	45.9	47.0	56.7	57.9	59.8	1 44.82	+ 0.12	25.07	12 1 19.87	12.92
	Weisse 1033	35	. .	. .	. .	12.1	13.3	15.4	30.6	33.1	34.3	35.7	36.9	2 26.43	— 25.94	25.07	12 1 35.42	12.92
	Lalande 23832	36	30.3	32.3	33.5	43.3	44.4	45.6	46.9	47.9	57.9	59.1	1.3	40 45.68	+ 0.01	25.10	12 40 20.59	12.64
	B. A. C. 4299	37	40.6	42.6	43.9	53.9	54.9	56.2	57.3	58.4	8.3	9.6	11.7	41 56.13	0.01	25.10	12 41 31.04	12.63
	* — 39° 35′	38	2.6	5.2	6.8	18.9	20.4	21.9	23.6	24.8	37.3	38.7	41.5	53 21.97	+ 0.44	25.11	12 52 57.30	13.16
	* — 16° 53′	39	. .	. .	. .	18.4	19.6	20.7	22.0	23.1	33.3	34.4	36.7	57 26.03	— 4.96	25.12	12 56 55.95	13.01
	O. Arg. S. 12629	40	4.9	7.0	8.3	18.2	19.3	20.5	21.7	22.8	32.9	34.1	36.2	58 20.54	+ 0.22	25.12	12 57 55.64	13.01
	θ Virginis	41	10.3	12.3	13.7	23.2	24.1	25.4	26.5	27.6	37.3	38.4	40.4	3 25.38	0.13	25.12	13 3 0.39	12.81
	* — 2° 45′	42	21.9	23.8	25.2	34.6	35.6	36.8	38.0	39.1	48.7	49.7	52.0	6 36.85	0.12	25.13	13 6 11.84	12.79
	Lalande 24598	43	48.1	50.2	51.5	1.1	2.0	3.2	4.4	5.4	. .	. .	. .	8 58.24	5.13	25.13	13 8 38.24	12.83
	Lalande 24610	44	16.4	18.4	19.7	29.0	30.1	31.3	32.6	33.7	43.5	44.7	46.6	9 31.46	0.13	25.13	13 9 6.46	12.83
	Polaris, S. P.	45	. .	1.0	12.0	23.0	49.0	. .	8.0	32.0	39.0	46.0	. .	9 26.25	19.96	25.13	1 9 21.08	115.03
	Lalande 24624	46	52.9	54.8	56.3	5.7	6.6	7.9	9.2	10.2	19.9	21.0	23.1	10 7.96	+ 0.13	25.13	13 9 42.96	12.83
	* — 26° 26′	47	. .	. .	. .	11.9	13.2	15.4	32.5	35.2	36.6	38.0	39.6	18 27.80	— 28.75	25.13	13 17 33.92	13.31
	* — 34° 28′	48	11.1	13.2	14.8	26.2	27.5	29.1	30.4	31.8	43.4	45.0	47.2	24 29.06	+ 0.38	25.14	13 24 4.30	+ 13.58
	Saturn I	49	14.9	16.4	17.7	18.9	21.2	. .	21.7	24.2	25.4	26.6	28.0	39 51.50	— 0.08	25.15	13 39 26.27	. .
	Saturn II	50	37.4	39.3	40.6	50.2	51.2	52.5	53.6	54.7	4.4	5.5	7.7	39 52.46	+ 0.15	—25.15	13 39 27.46	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
May	3, 9.6	— 24.95	— 0.050	+ 0.10
	3.2	— 25.49	— 0.035	

3. Cloudy.
4. Cloudy.

May 3. P. and P. S. P., n. = — 0.37.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 3	Weisse 694 . . .	1	10.2	12.3	13.4	23.0	24.0	25.2	26.4	27.5	37.3	38.4	40.4	41 25.28	+ 0.15	—25.15	13 41 0.28	+ 12.91
Tr.	Weisse 708 . . .	2	56.7	58.5	59.8	9.3	10.3	11.5	12.8	13.8	22.5	24.8	26.9	42 11.54	+ 0.15	25.15	13 41 46.54	12.91
	Weisse (2) 978 . .	3	2.8	4.9	6.3	16.7	17.7	19.0	20.5	21.7	32.0	33.4	35.6	46 19.15	— 0.06	25.16	13 45 53.93	11.54
	Weisse (2) 994 . .	4	43.0	45.1	46.6	56.9	58.0	59.3	0.6	1.7	12.3	13.6	15.8	46 59.35	— 0.06	25.16	13 46 34.13	11.54
	* — 36° 50′ . .	5	17.7	20.2	21.7	33.5	34.8	. .	37.9	39.2	51.2	52.7	55.3	51 36.42	+ 0.40	25.16	13 51 11.66	14.07
	τ Virginis	6	59.9	1.4	2.7	12.2	13.2	14.4	15.5	16.6	26.2	27.6	29.6	55 14.48	+ 0.09	25.17	13 54 49.40	12.56
Y.	α Andromedæ . .	7	. .	. .	. .	48.7	49.7	51.1	52.4	53.6	. .	. .	. .	1 51.10	— 0.04	25.38	0 1 25.68	14.65
	Polaris	8	. .	. .	.	27.0	7.0	55.5	45.0	27.0	. .	. .	. .	9 56.30	9.09	25.42	1 9 21.79	114.85
4	Sun I	9	1.6	3.6	4.8	14.7	15.9	17.1	18.3	19.4	29.5	30.6	32.7	46 17.11	0.00	25.48	2 45 51.63	. .
	Sun II	10	4.1	6.2	7.5	27.3	28.4	29.7	30.9	31.9	42.1	43.3	45.4	48 29.71	0.00	25.48	2 48 4.23	. .
	Venus	11	3.2	5.2	6.7	16.9	17.9	19.3	20.6	21.8	31.8	33.3	35.4	3 19.28	0.04	25.48	3 2 53.76	2.12
α Tauri		12	21.0	23.1	24.4	34.2	35.3	36.6	37.8	38.9	49.0	50.1	52.3	28 36.61	— 0.00	25.54	4 28 11.07	16.71
β Orionis		13	13.5	15.6	16.8	26.4	27.4	28.6	29.9	30.9	40.6	41.8	44.0	8 28.68	+ 0.16	25.56	5 8 3.28	14.14
Tr. 5	Polaris	†14	42.0	4.0	52.0	16.0	59.0	44.0	35.0	18.0	51.0	36.0	1.0	9 48.91	2.84	26.52	1 9 25.23	114.01
6	Sun I	15	45.2	47.3	48.4	58.4	59.5	0.9	2.0	3.1	13.2	14.5	16.5	54 0.82	0.10	26.53	2 53 34.39	. .
	Sun II	16	58.0	0.0	1.4	11.3	12.4	13.8	15.0	16.0	25.9	27.2	29.4	56 13.67	0.10	26.53	2 55 47.24	. .
α Aurigæ		17	48.9	51.9	53.2	7.1	8.8	10.2	11.9	13.5	27.3	29.0	32.2	7 10.38	0.11	26.54	5 6 43.95	21.45
β Orionis		18	14.6	16.6	17.9	27.4	28.5	29.6	30.8	32.0	41.8	43.0	45.1	8 29.75	0.11	26.54	5 8 3.32	14.15
α Orionis		19	3.8	5.7	7.1	16.5	17.6	18.7	19.9	21.1	30.7	31.9	34.0	48 18.82	0.10	26.54	5 47 52.38	15.65
l Leonis		20	22.8	24.7	26.1	35.7	36.7	37.9	39.1	40.2	50.1	51.3	53.2	42 37.98	+ 0.10	26.56	10 42 11.52	13.88
Dorpat 1487, (1st *)		21	6.4	8.0	9.4	10.8	13.2	. .	19.8	22.4	23.8	25.2	26.7	48 46.57	— 0.15	26.56	10 48 19.86	14.40
Dorpat 1487, (2d *)		22	30.2	32.3	33.8	44.3	45.4	46.7	48.0	49.2	59.9	1.2	3.6	48 46.78	+ 0.10	26.56	10 48 20.32	14.40
d Leonis		23	48.7	50.6	52.0	1.3	2.4	3.6	4.8	5.9	15.5	16.7	18.8	54 3.66	+ 0.10	26.56	10 53 37.20	13.47
Weisse 957 . . .		24	. .	. .	. .	. .	. .	. .	38.4	40.6	41.9	43.2	44.5	54 41.72	— 33.64	26.56	10 53 41.52	13.47
χ Leonis		25	16.5	. .	19.6	29.2	30.4	31.5	32.7	33.9	43.5	44.8	46.8	58 32.89	— 1.21	26.56	10 58 5.12	13.46
* + 68° 18′ . .		26	32.5	36.2	39.7	43.2	48.8	29.3	34.3	38.3	. .	. .	. .	6 0.29	+ 1 9.70	26.56	11 6 43.43	16.99
* + 68° 18′ . .		27	30.6	36.0	39.2	5.1	7.7	10.9	13.8	16.8	43.1	46.2	51.8	8 11.02	+ 0.20	26.56	11 7 44.66	16.91
Lacaille 4714 . .		28	59.9	2.2	3.6	14.5	. .	17.1	18.4	19.5	30.5	31.8	34.2	15 17.17	— 0.01	26.56	11 14 50.60	12.16
Lacaille 4722 . .		29	26.5	28.6	30.1	40.4	41.6	42.9	44.3	45.5	56.3	57.5	59.9	17 43.05	+ 0.13	26.56	11 17 16.62	12.30
O. Arg. S. 11370 .		30	48.9	51.1	52.6	3.2	4.3	5.6	6.9	8.1	18.7	21.1	22.4	19 5.72	0.13	26.56	11 18 39.29	12.31
Dorpat 2799 . . .		31	14.4	16.5	17.7	27.2	28.3	29.4	30.6	31.7	41.3	42.4	44.5	25 29.45	0.10	26.56	11 25 2.99	13.16
ν Leonis		32	16.0	17.8	19.1	28.6	29.7	30.8	32.1	33.2	42.7	43.8	45.9	30 30.95	+ 0.10	26.56	11 30 4.49	13.12
B. A. C. 3962 . .		33	. .	. .	. .	. .	. .	. .	27.6	30.0	31.2	32.6	33.8	34 31.04	— 33.56	26.56	11 33 30.92	13.14
Weisse 592 . . .		34	46.2	48.2	. .	58.8	0.0	1.1	2.2	3.4	. .	14.1	16.2	35 1.13	+ 0.10	26.56	11 34 34.67	13.14
Weisse 597 . . .		35	. .	. .	. .	27.1	28.3	30.3	45.4	47.8	49.1	50.4	51.7	35 41.26	— 25.92	26.56	11 34 48.78	13.14
Weisse 643 . . .		36	49.7	51.6	53.0	2.5	3.5	4.7	. .	7.0	16.7	17.8	20.0	38 4.65	+ 0.22	26.56	11 37 38.31	12.93
* — 7° 22′ . .		37	23.7	25.6	26.9	36.3	37.5	38.7	39.9	41.1	50.7	52.0	54.0	41 38.76	0.10	26.56	11 41 12.30	12.93
β Virginis		38	53.5	55.5	56.8	6.2	7.3	8.5	9.6	10.7	20.3	21.6	23.5	44 8.50	0.10	26.56	11 43 42.04	13.10
10 Virginis		39	0.1	2.0	3.4	. .	. .	. .	. .	.	26.8	28.1	30.1	3 15.08	0.06	26.56	12 2 48.58	13.00
Moon I		40	40.8	. .	44.4	54.1	55.0	56.2	57.5	58.5	8.4	. .	11.6	14 56.28	+ 0.10	26.56	12 14 29.82	. .
Polaris, S. P. . .		41	. .	. .	. .	27.0	46.0	56.0	9.0	25.0	. .	. .	. .	9 56.60	— 4.71	26.38	1 9 25.51	113.76
Saturn I . . .		†42	20.3	. .	50.5	. .	. .	36.8	. .	. .	. .	. .	. .	38 55.53	+ 10.07	26.20	13 38 39.40	. .
Saturn II . . .		†43	. .	36.4	. .	. .	21.5	. .	52.1	. .	. .	. .	. .	39 16.67	— 10.03	26.20	13 39 50.44	. .
η Bootis		†44	. .	. .	56.5	12.5	28.4	44.3	0.0	16.4	31.8	. .	. .	48 44.27	+ 0.04	26.20		11.76
τ Virginis		†45	. .	. .	29.0	45.5	0.9	15.5	30.6	45.8	0.5	. .	. .	55 15.40	0.04	26.20		12.55
E. 7	β Corvi	46	31.4	33.5	34.8	45.0	46.1	47.3	48.6	49.8	0.4	1.6	3.7	27 47.47	0.12	26.70		12.84
* — 35° 15′ . .		47	8.0	10.3	11.7	23.4	24.5	25.8	27.3	28.8	40.7	42.0	44.7	36 26.11	0.14	26.70	12 35 59.55	12.91
k Virginis		48	56.8	58.6	59.9	9.3	10.4	11.5	12.6	13.7	23.4	24.6	26.6	53 11.58	0.10	26.70	12 52 44.98	+ 12.81
Moon I		49	26.0	27.9	29.4	39.1	40.1	41.2	42.6	43.6	53.6	55.2	56.2	1 41.35	+ 0.11	—26.70	13 1 14.76	. .

14. Unsteady.
42–45. Observations made with eye and ear.

s.
May 5–6–8. P. and P. S. P., n. = — 0.03.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
May 6, 8.9	— 26.55	— 0.004	+ 0.10
13.8	26.20	0.004	
7, 12.9	— 26.70	— 0.009	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	s. m. s.	s.	h. m. s.	s.
May 7	Polaris, S. P.	1	..	..	..	25.0	39.5	55.0	7.0	25.0	..	..	..	9 54.30	— 4.71	—26.70	..	+ 113.24
E.	α Virginis	2	19.3	21.3	22.6	32.0	33.1	34.2	35.6	36.7	46.4	47.6	49.7	18 34.41	+ 0.11	26.70	..	+ 12.94
	Saturn I	3	13.8	15.2	16.3	17.4	20.8	..	20.6	22.8	24.2	25.4	26.8	38 50.33	— 0.13	26.71	13 38 23.49	..
	Saturn II	4	36.2	38.2	39.4	49.1	50.1	51.2	52.4	53.4	3.2	4.4	6.4	38 51.27	+ 0.10	26.71	13 38 24.66	..
Tr. 8	Sun II	5	43.5	45.5	46.8	56.7	57.7	58.9	0.1	1.3	11.6	12.7	15.0	3 59.07	0.10	26.85	3 3 32.32	— 66.60
	β Orionis	6	14.9	16.8	18.2	27.7	28.9	30.0	31.3	32.3	..	..	..	8 25.91	+ 5.15	26.87	..	+ 14.16
11	Polaris	†7	..	..	..	36.0	18.0	7.0	55.0	36.0	..	..	..	10 6.40	— 14.05	26.17	1 9 26.18	110.40
	α Arietis	8	..	..	..	..	..	..	..	36.0	37.4	38.8	40.1	0 38.07	37.12	26.19	1 59 34.76	16.23
12	Sun I	9	5.7	7.7	8.7	19.4	20.5	21.7	22.9	24.0	34.2	35.5	37.4	17 21.60	0.20	26.22	3 16 55.18	..
	Sun II	10	19.9	21.8	23.0	33.4	34.6	35.8	36.9	38.2	48.2	49.5	51.9	19 35.75	0.20	26.22	3 19 9.33	..
	β Tauri	11	55.5	57.9	59.0	10.2	11.3	12.6	14.0	15.2	26.0	27.5	29.7	18 12.63	0.25	26.25	5 17 46.13	18.30
	ε Orionis	12	33.7	35.7	36.8	46.3	47.6	49.0	50.1	51.0	0.4	1.8	3.6	29 48.73	0.14	26.26	5 29 22.33	14.83
	α Orionis	13	5.7	5.6	6.9	16.7	17.6	18.8	20.0	21.1	30.4	31.8	33.8	48 18.76	0.16	26.26	5 47 52.34	15.69
E.	θ Virginis	14	11.8	13.8	15.0	24.6	25.8	27.0	28.1	29.0	38.6	39.8	41.8	3 26.85	— 0.13	26.37	13 3 0.35	12.84
	Polaris, S. P.	15	..	..	..	11.0	28.0	38.0	51.0	10.0	..	..	..	9 39.60	+ 14.05	26.37	13 9 27.28	110.08
	Lacaille 5649	16	48.0	50.4	51.7	3.1	4.7	6.0	7.5	8.7	20.1	21.5	23.6	35 5.94	— 0.06	26.39	13 34 39.49	13.69
	Saturn I	17	58.5	59.9	1.3	2.5	4.8	..	5.5	7.7	8.8	10.1	11.5	37 35.06	+ 0.11	26.39	13 37 8.78	..
	Saturn II	18	21.3	23.4	24.6	34.4	35.4	36.6	37.7	38.8	48.2	49.5	51.5	37 36.49	— 0.12	26.39	13 37 9.98	..
	η Ursæ Majoris	19	18.8	21.9	24.0	38.9	40.5	42.4	44.0	45.8	0.6	2.7	5.6	42 42.29	0.41	26.39	13 42 15.49	9.44
	O. Arg. S. 14094	†20	..	..	..	9.5	10.4	11.6	12.9	14.4	..	..	..	50 11.76	0.14	26.42	14 49 45.20	13.85
	β Bootis	21	1.0	3.8	5.2	18.3	19.5	21.0	22.6	24.0	36.4	38.2	40.7	57 20.97	0.32	26.42	14 56 54.23	8.77
	ε Serpentis	22	19.5	21.6	22.9	32.6	33.6	34.8	36.0	37.0	46.5	47.7	49.7	44 34.72	0.15	26.44	15 44 8.13	12.10
	Moon II	23	7.6	..	11.2	21.6	22.8	24.2	25.4	26.5	36.8	..	40.4	22 24.06	0.09	26.48	17 21 57.49	..
	α Ophiuchi	24	53.9	56.0	57.3	7.3	8.5	9.5	10.7	11.8	21.5	22.7	24.7	29 9.45	0.18	26.49	17 28 42.78	11.30
	o Serpentis	25	..	..	..	31.4	32.8	34.6	50.0	52.4	53.6	55.0	56.2	34 45.75	26.46	26.49	17 33 52.80	13.95
Tr.	Polaris	26	..	21.0	10.0	38.0	23.0	8.0	1.0	38.0	2.0	55.0	..	10 8.44	12.58	26.60	1 9 29.26	109.75
	α Arietis	27	..	..	..	59.1	0.4	1.7	2.9	4.2	34.0	39.2	40.6	0 15.26	13.86	26.62	1 59 34.78	+ 16.21
	Venus II	28	4.3	6.4	7.7	17.6	18.8	20.0	21.3	22.5	32.4	33.9	35.7	43 20.05	0.20	26.63	2 42 53.22	— 2.07
13	Sun I	29	..	4.1	5.2	15.2	16.4	17.6	18.8	19.9	30.2	31.4	..	21 17.65	0.17	26.65	3 20 50.83	..
	Sun II	30	16.0	17.9	19.4	29.5	30.7	31.9	33.2	34.4	44.2	45.5	47.8	23 31.80	0.16	26.65	3 23 5.05	..
	α Tauri	31	22.1	24.3	25.6	35.7	36.7	37.9	39.2	40.3	50.0	51.3	53.4	28 37.86	0.16	26.67	4 28 11.03	+ 16.70
Y.	β Orionis	32	14.6	16.8	18.0	28.0	29.0	30.1	31.2	32.4	41.9	43.1	45.3	8 30.04	0.14	..	..	14.17
	β Tauri	33	55.8	58.0	59.4	10.4	11.6	13.0	14.3	15.5	26.2	27.8	30.2	18 12.93	0.18	..	..	18.30
Tr.	α Orionis	34	..	..	..	31.0	32.3	34.3	49.3	51.5	52.9	54.2	55.4	48 45.11	— 26.06	26.70	5 47 52.35	15.70
	O. Arg. S. 12243	35	56.5	58.7	0.0	10.4	11.5	12.7	14.1	15.2	..	..	..	27 7.39	+ 5.23	26.85	12 26 45.77	12.91
	β Corvi	36	31.6	33.7	35.2	45.5	46.7	47.9	49.2	50.4	0.5	2.0	4.0	27 47.88	— 0.14	26.85	12 27 20.89	12.89
	O. Arg. S. 12254	37	..	..	..	26.2	27.6	29.6	45.8	48.2	49.5	50.8	52.4	28 41.26	27.99	26.85	12 27 46.42	12.92
	Lacaille 5234	38	..	..	..	44.1	46.2	48.5	7.2	10.2	11.7	13.1	14.9	34 1.98	32.37	26.85	12 33 2.76	12.90
	Weisse 632	39	22.4	24.6	25.6	35.6	36.6	37.8	39.1	40.1	50.0	51.3	53.3	38 37.85	0.15	26.85	12 38 10.85	12.73
	Weisse 646	40	..	..	..	6.9	8.1	9.3	10.5	11.6	..	..	..	39 9.28	0.20	26.85	12 38 42.23	12.72
	Weisse 652	41	23.0	25.1	26.3	36.2	37.3	38.6	39.8	40.9	50.6	51.8	53.7	39 38.48	0.15	26.85	12 39 11.48	12.70
	Lalande 23832	42	32.0	34.0	35.4	45.3	46.4	47.5	48.7	49.8	59.6	0.9	2.9	40 47.50	0.15	26.85	12 40 20.50	12.70
	B. A. C. 4299	43	42.5	44.6	45.8	55.7	56.8	58.1	59.3	0.3	10.0	11.4	13.5	41 58.00	0.15	26.85	12 41 31.00	12.69
	Polaris, S. P.	44	30.0	36.0	43.0	51.0	14.0	..	34.0	0.0	10.0	21.0	28.0	9 56.70	2.31	26.86	..	109.44
	* — 39° 35′	45	4.8	7.4	9.2	21.2	22.5	24.3	25.7	27.2	39.6	41.1	43.7	53 24.25	0.16	26.86	12 52 57.23	13.21
	* — 14° 54′	46	..	..	..	31.6	32.7	34.1	35.3	36.3	..	..	..	57 34.00	0.19	26.86	12 57 6.95	13.01
	O. Arg. S. 12630	47	23.3	25.4	26.6	36.6	37.8	39.1	40.3	41.2	51.0	52.4	54.4	58 38.92	0.14	26.86	12 58 11.92	13.02
	O. Arg. S. 12671	48	38.0	39.9	41.2	51.8	52.9	54.3	55.6	56.6	6.9	8.2	10.5	1 54.17	0.14	26.86	13 1 27.17	13.14
	53 Virginis	49	7.1	9.1	10.4	20.2	21.3	22.5	23.8	24.9	34.7	35.9	38.0	5 22.54	— 0.14	—26.86	13 4 55.54	+ 13.05

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
May 12,	4.6 — 26.24	— 0.025	— 0.14
	15.3 — 26.43	— 0.025	
	13, 11.7 — 26.83	— 0.022	

7. Faint; very tremulous.
20. Very faint.

s.
May 12. P., P. S. P., and P., n. = — 0.16.
13. — 0.13.

r.
May 11, 5h. Image 0.00. Clamp east.
Image west 0.47. Clamp west.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.	
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.	
May 13	Lalande 24598 . .	1	50.3	52.4	53.5	2.9	4.0	5.2	6.4	7.4	. .	. .	. .	9 0.28	+ 4.84	—26.86	13 8 38.26	+ 12.86	
Tr.	Lalande 24610 . .	2	18.4	20.5	21.6	31.2	32.3	33.5	34.6	35.7	45.2	46.4	48.5	9 33.44	— 0.14	26.86	13 9 6.44	12.86	
	Lalande 24624 . .	3	54.9	56.8	58.1	7.8	8.8	10.0	11.2	12.3	21.7	23.1	25.1	10 9.98	0.14	26.86	13 9 42.98	12.86	
	α Virginis . . .	4	19.6	21.6	22.8	32.5	33.7	35.0	36.2	37.2	46.8	48.0	50.1	18 34.86	0.14	26.86	13 18 7.86	12.95	
	* — 32° 46′ . . .	5	10.5	12.8	14.3	25.6	27.0	28.4	29.7	31.0	42.3	43.8	46.2	21 28.33	0.15	26.87	13 21 1.31	13.51	
	* — 34° 29′ . . .	6	12.8	15.5	16.6	28.4	29.8	31.3	32.7	34.0	45.6	47.0	49.5	24 31.20	0.15	26.87	13 24 4.18	13.59	
	Saturn I . . .	7	44.8	46.0	. .	. .	51.0	. .	51.5	53.9	55.0	56.4	57.7	37 29.54	8.22	26.87	13 36 54.45	. .	
	Saturn II . . .	8	7.6	9.6	10.6	20.5	21.6	22.7	23.9	25.0	34.6	35.8	37.7	37 22.69	0.14	26.87	13 36 55.68	. .	
	* — 37° 28′ . . .	9	3.6	6.1	7.7	19.7	21.2	22.6	24.3	25.4	37.3	38.8	41.3	43 22.55	— 0.15	26.87	13 42 55.53	13.96	
	Weisse 931 . . .	10	35.1	36.3	37.6	38.8	41.2	. .	41.3	43.6	44.8	46.0	47.3	55 11.20	+ 0.09	26.88	13 54 44.41	12.52	
	τ Virginis . . .	11	1.3	3.4	4.5	14.2	15.2	16.4	17.6	18.7	28.2	29.4	31.3	55 16.38	— 0.14	26.88	13 54 49.36	12.54	
	* — 32° 52′ . .	12	31.9	34.4	35.7	47.4	48.6	50.0	51.5	52.6	4.0	5.4	7.6	5 49.92	0.15	26.88	14 5 22.89	14.07	
	* — 32° 52′ . .	13	. .	. .	. .	. .	. .	. .	32.2	34.9	36.4	37.8	39.4	6 36.14	39.66	26.88	14 5 29.60	14.07	
	Lacaille 5877 . .	14	52.1	54.5	56.0	7.7	8.7	10.2	11.8	13.1	24.5	26.1	28.4	9 10.28	0.15	26.88	14 8 43.25	14.19	
	Weisse 199 . . .	15	28.9	31.0	32.2	42.2	43.2	44.4	45.8	46.8	56.4	58.0	0.0	12 44.45	0.14	26.89	14 12 17.42	13.19	
	Weisse 293 . . .	16	30.8	32.8	34.0	44.0	45.0	. .	47.5	48.5	58.2	59.5	1.2	17 46.15	0.13	26.89	14 17 19.13	13.22	
	Weisse 316 . . .	17	18.7	20.8	21.9	31.9	33.0	34.2	35.4	36.4	46.2	47.6	49.6	18 34.16	0.14	26.89	14 18 7.13	13.22	
	O. Arg. S. 13694 .	18	. .	. .	. .	46.6	47.9	50.1	6.6	8.9	10.3	11.6	13.1	25 1.90	— 28.26	26.89	14 24 6.75	13.80	
	* — 32° 10′ . .	19	39.3	40.7	42.3	43.6	46.8	. .	57.5	0.4	1.6	3.2	5.0	34 22.04	+ 0.12	26.89	14 33 55.27	14.37	
	Lacaille 6054 . .	20	19.4	21.8	23.2	34.5	35.8	37.2	38.5	39.7	50.9	52.5	54.7	34 37.11	— 0.15	26.89	14 34 10.07	14.37	
	54 Hydræ, (1st *) .	21	1.7	3.3	5.7	6.1	8.7	. .	14.8	17.3	18.6	20.0	21.6	38 41.78	+ 0.11	26.89	14 38 15.00	13.97	
	54 Hydræ, (2d *) .	22	25.9	26.2	29.5	40.1	41.3	42.5	43.8	44.9	55.4	56.8	58.8	38 42.27	— 0.14	26.89	14 38 15.24	13.97	
	8 Libræ	23	. .	. .	. .	. .	. .	. .	14.5	16.9	18.1	19.5	20.8	44 17.96	34.58	26.90	14 43 16.48	13.43	
	α^2 Libræ	24	39.4	41.5	42.9	52.6	53.9	55.1	56.4	57.4	7.2	8.5	10.6	43 55.05	0.14	26.90	14 43 28.01	13.38	
	O. Arg. S. 17871 .	25	23.2	25.4	26.6	37.5	38.3	39.6	40.8	41.8	52.0	53.4	55.4	6 39 46	0.14	26.97	18 6 12.35	15.02	
	Moon II . . .	26	30.0	32.3	33.5	44.0	45.3	46.5	47.8	48.8	59.1	0.4	2.6	18 46.39	0.14	26.98	18 18 19.27	. .	
	B. A. C. 6279 . .	27	44.5	46.6	47.8	57.7	58.9	0.1	1.2	2.3	12.0	13.4	15.4	21 59.99	0.14	26.98	18 21 32.87	14.31	
	B. A. C. 6284 . .	28	19.2	21.2	22.5	32.4	33.5	34.7	36.0	37.0	46.7	48.0	50.2	22 34.67	0.14	26.98	18 22 7.55	14.31	
	B. A. C. 6304 . .	29	. .	. .	. .	26.7	27.8	29.1	30.5	31.6	42.0	43.4	45.5	25 34.58	5.60	26.98	18 25 2.00	15.38	
	24 Sagittarii . . .	30	52.2	54.4	55.8	6.2	7.4	8.7	10.1	11.2	21.4	22.9	25.0	26 8.66	0.14	26.98	18 25 41.54	15.38	
	26 Sagittarii . . .	31	50.9	53.2	54.4	4.9	6.0	7.4	8.7	9.9	20.2	21.7	23.9	34 7.38	0.14	26.98	18 33 40.26	15.40	
	O. Arg. S. 18625 .	32	29.2	31.4	32.6	42.8	44.0	45.4	46.7	47.8	57.7	59.2	1.4	37 45.38	0.14	26.98	18 37 18.26	15.04	
	O. Arg. S. 18672 .	33	5.7	7.7	9.1	19.2	20.5	21.7	23.1	24.2	34.3	35.6	37.6	40 21.70	0.14	26.98	18 39 54.58	15.02	
	29 Sagittarii . . .	34	53.2	55.4	56.7	6.9	8.0	9.2	10.5	11.7	21.7	23.1	25.2	42 9.24	0.14	26.98	18 41 42.12	15.02	
	Lalande 34990 . .	35	13.1	15.2	16.5	26.7	28.0	29.2	30.5	31.6	41.5	42.9	44.9	43 29.10	0.14	26.98	18 43 1.98	15.03	
	Lalande 35046 . .	36	30.0	32.0	33.2	43.7	44.8	46.0	47.3	48.4	58.4	59.7	1.8	44 45.94	0.14	26.98	18 44 18.82	15.04	
	ν^1 Sagittarii . . .	37	14.6	16.8	18.1	28.4	29.6	30.9	32.2	33.4	43.6	45.0	47.1	46 30.88	0.14	26.99	18 46 3.75	15.31	
	ν^2 Sagittarii . . .	38	11.1	13.2	15.5	25.0	26.2	27.4	28.7	29.7	40.1	41.3	43.5	47 27.43	— 0.14	26.99	18 47 0.30	15.32	
	O. Arg. S. 18878 .	39	24.3	25.9	27.2	28.5	31.0	. .	35.5	38.0	39.3	40.5	42.1	50 3.23	+ 0.10	26.99	18 49 36.34	15.14	
	ξ^2 Sagittarii . . .	40	54.2	56.4	57.6	7.8	9.0	10.2	11.6	12.8	22.9	24.3	26.3	50 10.28	— 0.14	26.99	18 49 43.15	15.14	
	Lalande 35497 . .	41	58.6	0.1	1.4	2.7	5.4	. .	9.0	11.5	12.8	14.1	15.6	55 37.12	+ 0.10	26.99	18 55 10.23	14.94	
	Lalande 35499 . .	42	25.2	27.3	28.6	38.7	39.8	41.1	42.4	43.5	53.4	54.8	56.8	55 41.06	— 0.14	26.99	18 55 13.93	14.94	
	ζ Aquilæ . . .	43	26.3	28.3	29.7	39.4	40.7	41.8	43.1	44.2	53.8	55.2	57.1	59 41.78	0 15	26.99	18 59 14.64	11.43	
	Weisse 1525 . .	44	. .	. .	. .	5.2	6.4	7.5	8.7	9.6	. .	. .	. .	0 7.48	0.20	26.99	18 59 40.29	11.45	
	Weisse 1539 . .	45	20.7	22.7	24.1	34.0	35.0	36.2	37.5	38.6	48.2	49.4	51.6	0 36.18	0.15	26.99	19 0 9.04	11.45	
	ω Aquilæ	46	42.8	44.8	46.0	55.8	57.0	58.3	59.5	0.6	10.1	11.4	13.3	11 58.15	0.15	26.99	19 11 31.01	11.79	
Y. 14	O. Arg. S. 18577 .	47	11.6	13.9	15.2	25.3	26.5	27.7	29.0	30.1	40.1	41.4	43.5	35 27.66	0.10	26.97	18 35 0.59	14.85	
	O. Arg. S. 18625 .	48	. .	. .	. .	. .	43.0	44.0	45.2	46.5	47.7	57.9	59.2	1.4	37 50.61	5.43	26.97	18 37 18.21	15.02
	Lalande 34916 . .	49	52.7	54.9	56.0	6.3	7.4	8.7	10.0	11.0	21.1	22.4	24.5	42 8.64	0.10	26.97	18 41 41.57	14.86	
	ν^1 Sagittarii . . .	50	14.7	17.0	18.2	28.6	29.7	31.0	32.3	33.4	43.7	44.9	47.1	46 30.96	— 0.10	—26.97	18 46 3.89	+ 15.29	

May 14, 18h. to 21h. n. = s. —0.13.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 14, 19.6	— 26.98	— 0.014	— 0.14

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction to 1870.0
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 8	B. A. C. 5314	1	35.6	37.1	38.5	49.1	50.3	51.6	52.8	54.0	4.7	6.0	8.2	55 51.57	+ 0.22	—36.77	15 55 15.02	+ 14.40
Y.	Weisse 1080	2	1.6	3.8	5.0	14.5	15.5	16.7	17.9	19.0	28.6	29.8	31.8	58 16.75	0.14	36.77	15 57 40.12	12.89
	O. Arg. S. 15342	3	54.1	56.1	57.4	7.3	8.4	9.6	10.8	12.0	22.2	23.3	25.5	4 9.70	0.19	36.77	16 3 33.12	13.76
	O. Arg. S. 15398	4	4.7	6.7	8.0	17.9	18.9	20.1	21.3	22.5	32.8	33.9	36.1	6 20.26	+ 0.19	36.77	16 5 43.68	13.76
	O. Arg. S. 15595	5	. .	. .	. .	59.8	0.9	2.1	3.5	4.7	14.9	16.3	18.4	17 7.58	— 5.16	36.77	16 16 25.65	14.21
	α Scorpii	6	30.7	33.9	35.4	45.8	46.9	48.4	49.7	50.9	21.5	22.8	25.0	21 48.27	+ 0.22	36.77	16 21 11.72	14.39
	O. Arg. S. 15698	7	57.4	59.4	0.7	11.0	12.1	13.4	14.7	15.9	26.2	27.5	29.7	24 13.45	0.20	36.77	16 23 36.88	14.26
	O. Arg. S. 15726	8	9.0	11.3	12.7	. .	. .	. .	. .	. .	38.1	39.3	41.6	26 25.33	0.16	36.77	16 25 48.72	14.27
	Weisse 562	9	44.0	46.1	47.2	56.8	57.8	59.0	0.2	1.3	10.5	12.1	14.1	30 59.04	0.14	36.77	16 30 22.41	12.29
	Weisse 619	10	14.4	16.3	17.7	27.1	28.2	29.4	30.6	31.6	40.2	42.4	44.5	33 29.31	0.15	36.77	16 32 52.69	12.75
	η Herculis	11	36.2	38.9	40.7	52.7	53.9	55.7	57.1	58.4	10.9	12.4	14.9	38 55.62	0.08	36.77	16 38 18.93	7.49
	Weisse 854	12	27.6	29.6	30.8	40.3	41.3	42.5	43.6	44.7	54.4	55.7	57.7	45 42.56	0.15	36.77	16 45 5.94	12.73
	23 Ophiuchi	13	47.6	49.6	50.9	0.4	1.4	2.6	3.8	4.8	14.7	15.8	17.8	48 2.68	+ 0.15	36.77	16 47 26.06	12.76
	Weisse 913	14	. .	. .	. .	13.2	14.3	15.4	16.6	17.6	27.4	28.5	30.6	49 20.45	— 4.83	36.77	16 48 38.85	12.76
	κ Ophiuchi	15	41.4	43.3	44.6	54.2	55.2	56.5	57.6	58.7	8.4	9.6	11.8	51 56.48	+ 0.12	36.77	16 51 19.83	11.15
	29 Ophiuchi	16	22.0	24.0	25.3	35.4	36.3	37.6	38.8	40.0	50.1	51.3	53.5	54 37.66	0.19	36.77	16 54 1.08	+ 13.94
	Moon I	17	56.9	59.0	0.3	10.6	11.7	13.0	14.2	15.4	26.1	27.2	29.4	0 13.07	0.19	36.78	16 59 36.48	. .
	Moon II	18	11.8	13.8	15.1	25.4	26.6	27.9	29.2	30.3	40.8	42.1	44.3	2 27.94	0.19	36.78	17 1 51.35	. .
	Schwerd 1014	19	34.2	44.3	50.5	36.7	42.0	48.1	53.5	58.9	46.4	52.3	1.9	7 48.07	0.06	36.78	17 7 11.35	— 20.32
	Weisse 186	20	14.4	16.2	17.4	27.0	28.0	29.1	30.3	31.4	41.1	42.2	44.3	12 29.22	+ 0.15	36.78	17 11 52.59	+ 12.00
	θ Ophiuchi	21	. .	. .	. .	21.0	22.1	23.3	24.6	25.8	36.5	37.9	40.0	14 28.90	— 5.24	36.78	17 13 46.88	14.00
	b Ophiuchi	22	31.5	33.7	35.0	45.5	46.6	47.8	49.1	50.3	0.9	2.1	4.3	18 47.89	+ 0.21	36.78	17 18 11.32	14.39
	Jupiter I	23	48.5	50.0	51.2	52.5	55.1	. .	0.2	2.8	4.2	5.5	7.1	38 27.71	— 0.04	36.78	17 37 50.89	. .
	Jupiter II	24	14.6	16.7	18.1	28.4	29.5	30.8	32.0	33.2	43.7	45.0	47.3	38 30.85	+ 0.21	36.78	17 37 54.28	. .
	O. Arg. S. 17270	25	20.2	22.3	23.7	33.9	35.0	36.3	37.6	38.7	49.2	50.5	52.6	43 36.36	0.21	36.78	17 42 59.79	14.55
	O. Arg. S. 17320	26	38.0	40.3	41.5	52.5	53.6	55.0	56.3	57.5	8.5	9.7	12.1	45 55.00	0.23	36.78	17 45 18.45	15.21
	4 Sagittarii	27	57.0	59.0	0.5	10.8	11.9	13.2	14.4	15.7	26.3	27.5	29.9	52 13.29	0.21	36.78	17 51 36.72	14.66
	* — 21° 30′	28	57.2	59.4	0.7	10.8	11.9	13.2	14.5	15.6	26.0	27.3	29.5	55 13.28	0.20	36.78	17 54 36.77	14.43
	* — 21° 27′	29	28.5	30.7	32.0	42.4	43.4	44.6	45.9	47.1	57.5	58.7	0.7	58 44.68	0.20	36.78	17 58 8.10	14.43
	Lalande 33164	30	29.6	31.6	33.1	43.3	44.4	45.6	46.9	48.0	58.5	59.6	1.7	59 45.66	+ 0.20	36.78	17 59 9.08	14.43
	Lalande 33210	31	. .	. .	. .	10.4	11.6	12.9	14.2	15.3	25.6	26.9	29.1	1 18.25	— 5.13	36.78	18 0 36.34	14.44
	μ Sagittarii	32	5.5	7.6	8.9	19.0	20.2	21.4	22.7	23.8	34.3	35.5	37.6	6 21.50	+ 0.20	36.78	18 6 44.92	+ 14.39
	δ Ursæ Minoris	33	29.5	2.5	25.0	3.0	20.5	40.2	1.0	18.5	0.0	20.5	55.0	16 41.43	0.17	36.78		— 108.38
	1 Aquilæ	34	16.4	18.5	19.5	29.3	30.2	31.5	32.6	33.8	43.5	44.6	46.5	28 31.49	+ 0.16	36.78	18 27 54.87	+ 13.09
	51 Cephei, S. P.	35	. .	. .	. .	25.0	3.0	38.0	13.5	52.5	. .	. .	. .	36 38.40	— 1.17	36.78	6 36 0.45	162.06
Tr.	Polaris	36	. .	. .	. .	26.0	15.0	39.0	53.0	33.0	24.0	13.0	8.0	28 3.88	—17 36.79	37.14	1 9 49.95	90.36
	β Arietis	37	33.6	35.6	37.3	47.1	48.2	49.5	50.8	51.9	2.2	3.5	5.5	47 49.56	+ 0.09	37.13	1 47 12.52	15.23
	α Arietis	38	56.2	58.3	59.8	10.1	11.1	12.4	13.6	14.8	25.3	26.6	28.7	0 12.45	0.09	37.13	1 59 35.41	+ 15.52
	Venus II	39	26.8	28.8	30.2	39.9	40.9	42.2	43.3	44.5	54.5	55.7	57.7	39 42.23	0.11	37.13	2 39 5.21	— 1.39
	α Ceti	40	36.3	38.3	39.5	49.0	50.0	51.2	52.4	53.5	3.2	4.4	6.3	55 51.28	0.13	37.13	2 55 14.28	+ 14.57
	Mercury II	41	7.7	9.9	11.2	21.0	22.2	23.5	24.7	25.9	35.7	37.2	39.2	42 23.47	0.10	37.12	3 41 46.45	— 0.23
	α Tauri	42	32.8	34.7	36.1	45.8	47.0	48.2	. .	50.5	0.5	1.7	3.9	28 48.12	+ 0.22	37.11	4 28 11.23	+ 16.45
9	Sun I	43	. .	. .	. .	42.2	43.4	44.6	45.9	47.0	57.6	58.7	0.9	10 50.04	— 5.31	37.11	5 10 7.62	. .
	Sun II	44	45.8	47.9	49.4	59.6	0.7	2.0	3.3	4.6	15.1	16.4	18.4	13 2.11	+ 0.09	37.11	5 12 25.09	. .
	α Orionis	45	14.4	16.3	17.6	27.1	28.2	29.4	30.6	31.6	41.4	42.5	44.5	48 29.42	0.12	37.11	5 47 52.43	15.66
	α Canis Majoris	46	33.4	35.5	36.7	46.6	47.8	49.1	50.2	51.3	1.4	2.7	4.7	39 49.04	0.19	37.10	6 39 12.13	12.95
	α^2 Geminorum	47	19.1	21.4	23.0	34.0	35.2	36.8	38.1	39.4	50.7	52.1	54.6	26 36.76	0.07	37.09	7 25 59.74	12.42
	α Canis Minoris	48	. .	38.7	40.0	49.5	50.5	51.7	52.9	54.0	3.5	4.7	. .	32 51.72	0.14	37.09	7 32 14.77	15.01
	β Geminorum	49	23.9	26.2	27.7	38.4	39.5	40.8	42.3	43.5	54.4	55.8	58.1	37 40.96	+ 0.08	37.09	7 37 3.95	17.63
E.	Polaris, S. P.	50	. .	. .	. .	58.0	17.0	30.0	42.5	58.0	. .	. .	. .	10 29.10	— 1.46	—37.20	1 9 50.44	+ 89.52

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 8, 15.7	— 36.77	— 0.004	+ 0.14
5.1	— 37.11	+ 0.007	

s.
June 8, n. = — 0.13.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 15	* — 36° 43′	1	. .	. .	. .	. .	. .	. .	16.4	19.1	20.6	22.2	23.8	52 20.42	— 41.52	—27.10	13 51 11.80	+ 14.06
É.	* — 33° 2′	2	18.2	20.7	22.4	34.0	35.3	36.8	38.3	39.5	51.5	53.0	55.5	53 36.84	0.12	27.10	13 53 9.62	13.92
	* — 26° 4′	3	. .	. .	. .	27.7	29.1	31.4	48.0	50.4	51.8	53.2	54.8	3 43.30	28.80	27.10	14 2 47.50	13.74
	* — 32° 52′	4	. .	. .	. .	. .		. .	22.0	24.6	26.2	27.8	29.2	6 25.90	39.63	27.10	14 5 19.17	14.06
	* — 32° 49′	5	. .	. .	. .	47.7	48.9	50.2	51.7	52.9	. .	.	. .	5 50.28	0.17	27.10	14 5 23.01	14.06
	* — 32° 49′	6	39.1	41.4	42.8	. .	. .	. .	. .	. .	10.8	12.4	14.7	5 56.87	0.07	27.10	14 5 29.70	14.06
	* — 36° 38′	7	52.6	55.1	56.6	8.5	9.9	11.4	12.9	14.2	26.0	27.6	29.9	11 11.34	0.12	27.10	14 10 44.12	14.33
	* — 27° 30′	8	15.4	17.7	18.9	29.8	31.0	32.3	33.6	34.8	45.6	47.0	49.0	16 32.28	0.12	27.10	14 16 5.06	13.91
	* — 26° 6′	9	13.6	15.9	17.4	. .	. .	. .	. .	. .	43.4	44.7	47.0	18 30.33	0.08	27.10	14 18 3.15	13.85
	B. A. C. 4776	10	. .	. .	. .	28.8	30.1	31.3	32.6	33.8	. .	. .	. .	18 31.32	0.17	27.10	14 18 4.05	13.86
	O. Arg. S. 13679	11	9.9	12.3	13.6	24.4	25.6	26.8	28.2	29.3	39.8	41.2	43.3	23 26.76	0.12	27.11	14 22 59.53	13.90
	Lacaille 5983	12	. .	. .	. .	38.6	39.7	41.0	42.4	43.7	54.7	56.2	58.3	25 46.82	5.88	27.11	14 25 13.83	14.14
	Lacaille 6047	13	19.1	21.6	22.9	33.5	34.6	35.9	37.4	38.5	49.0	50.4	52.5	33 35.94	0.12	27.11	14 33 8.71	13.97
	* — 37° 23′	14	. .	. .	. .	. .	. .	. .	15.3	18.3	19.9	21.4	23.1	38 19.60	41.98	27.11	14 37 10.51	14.76
ε	Bootis	15	. .	. .	. .	48.7	50.5	52.5	9.2	11.6	13.1	14.4	15.9	40 4.49	29.20	27.11	14 39 8.18	10.54
	* — 27° 47′	16	13.6	15.8	17.1	28.1	29.3	30.6	32.0	33.1	43.9	45.2	47.5	51 30.56	0.12	27.11	14 51 3.33	14.25
	O. Arg. S. 14349	17	0.6	2.8	4.3	14.9	16.1	17.3	18.6	19.6	30.1	31.4	33.6	5 17.21	0.12	27.11	15 4 49.98	14.18
	B. A. C. 5006	18	. .	. .	. .	37.5	38.7	41.0	57.7	0.2	1.4	2.8	4.2	6 52.94	28.60	27.11	15 5 57.23	14.23
	O. Arg. S. 14402	19	15.7	17.8	19.1	29.2	30.3	31.6	32.9	34.1	44.1	45.7	47.6	8 31.64	0.12	27.11	15 8 4.41	13.86
	O. Arg. S. 14437	20	48.8	50.9	52.2	2.4	3.6	4.8	6.1	7.2	17.3	18.5	20.7	11 4.77	0.12	27.11	15 10 37.54	13.88
	O. Arg. S. 14513	21	33.7	35.9	37.2	47.6	48.6	50.0	51.2	52.4	2.8	4.0	6.1	16 49.96	0.12	27.11	15 16 22.73	14.05
μ	Bootis	22	34.3	36.8	38.5	50.5	52.0	53.5	55.0	56.2	8.2	9.9	12.4	19 53.39	0.23	27.12	15 19 26.04	8.78
	* — 23° 8′	23	25.6	27.7	29.0	39.5	40.7	41.9	43.3	44.4	54.5	56.0	58.2	23 41.89	0.12	27.12	15 23 14.65	14.17
τ	Aquilæ	24	47.1	49.0	50.2	0.0	1.0	2.3	3.5	4.5	13.9	15.1	17.2	58 2.17	0.15	27.16	19 57 34.86	12.48
ξ^2	Capricorni	25	8.6	10.7	11.9	21.8	22.9	24.1	25.4	26.5	36.1	37.5	39.5	5 24.09	0.13	27.16	20 4 56.80	14.41
	Moon II	26	45.7	47.8	49.0	59.3	0.3	1.5	2.7	3.8	14.1	15.4	17.4	12 1.54	0.13	27.16	20 11 34.25	. .
ε	Delphini	27	59.8	2.0	3.2	12.9	14.1	15.3	16.5	17.5	27.0	28.5	30.5	27 15.21	0.16	27.17	20 27 47.88	12.29
α	Cygni	28	7.8	0.8	2.5	16.3	17.5	19.1	20.9	22.3	35.8	37.6	40.2	37 19.16	0.27	27.17	20 36 51.72	8.21
ε	Aquarii	29	36.0	38.2	39.3	49.1	50.2	51.5	52.6	53.6	3.2	4.5	6.5	40 51.34	0.13	27.17	20 40 24.04	14.23
Y	Polaris	†30	54.0	15.0	1.0	35.0	18.0	5.0	52.0	35.0	0.0	51.0	10.0	10 3.27	8.52	27.09	1 9 27.66	107.99
β	Arietis	31	. .	. .	. .	36.9	38.0	39.2	40.5	41.6	51.7	53.0	55.1	47 44.50	5.48	27.10	1 47 11.92	+ 15.81
	Venus II	32	39.9	41.8	43.2	53.3	54.4	55.7	56.9	58.0	7.9	9.1	11.2	37 55.58	0.17	27.12	2 37 28.29	— 2.00
16	Sun I	33	52.6	54.8	55.9	6.2	7.3	8.5	9.8	10.8	20.8	22.2	24.4	33 8.48	0.17	27.14	3 32 41.17	. .
	Sun II	34	7.0	9.1	10.4	20.7	21.8	23.1	24.4	25.4	35.4	36.7	38.8	35 22.98	0.17	27.14	3 34 55.67	. .
α	Tauri	35	22.8	24.8	26.1	36.2	37.3	38.6	39.7	40.7	50.6	52.0	54.1	28 38.45	0.17	27.16	4 28 11.12	+ 16.70
β	Orionis	36	15.4	17.5	18.7	28.5	29.5	30.6	31.8	33.0	42.5	43.8	45.9	8 30.65	0.13	27.17	5 8 3.35	14.18
β	Tauri	37	56.3	58.6	59.9	11.0	12.2	13.5	14.9	16.1	26.7	28.4	30.7	18 13.48	0.20	27.17	5 17 46.11	18.31
Tr.	α Orionis	38	4.7	6.6	7.8	17.6	18.6	19.8	21.0	22.1	31.6	32.8	34.8	48 19.76	0.15			15.71
Y.	α Canis Majoris	39	23.9	26.0	27.3	37.4	38.6	39.7	40.9	41.9	51.8	53.3	55.4	39 39.65	0.13	27.21	6 39 12.31	12.84
τ	Leonis	40	14.0	16.2	17.2	26.9	28.0	29.2	30.3	31.3	40.9	42.1	44.2	21 29.12	— 0.14	27.29	11 21 1.69	13.37
	Weisse 349	41	53.5	54.8	56.0	57.3	59.7	. .	59.8	2.1	3.4	4.6	5.9	21 29.71	+ 0.09	27.29	11 21 2.51	13.37
	Dorpat 2799	42	15.1	17.2	18.3	28.1	29.1	30.2	31.3	32.4	41.7	43.0	45.2	25 30.15	— 0.14	27.29	11 25 2.72	13.27
	O. Arg. N. 11901	43	. .	17.3	21.4	50.9	54.6	58.4	2.1	4.9	33.4	38.2	. .	29 57.91	0.67	27.29	11 29 29.95	16.06
	* + 71° 16′	44	. .	. .	. .	46.6	50.0	53.8	57.4	0.9	. .	. .	. .	31 53.74	0.78	27.29	11 31 25.67	15.87
	Weisse 562	45	. .	. .	. .	18.1	19.1	20.4	21.5	22.5	32.0	33.2	35.2	33 25.25	5.13	27.29	11 32 52.83	13.19
	B. A. C. 3975	46	. .	. .	. .	42.9	44.1	46.0	1.0	3.4	4.6	5.8	7.1	37 56.86	25.97	27.29	11 37 3.60	13.06
	Weisse 673	47	29.3	31.4	32.6	42.3	43.3	44.5	45.8	46.9	56.2	57.5	59.6	39 44.49	— 0.13	27.29	11 39 17.07	13.06
	* — 5° 32′	48	36.3	38.3	39.5	49.3	50.3	51.5	52.6	53.8	. .	. .	. .	45 46.45	+ 4.85	27.29	11 45 24.01	13.05
	Weisse 785	49	. .	. .	. .	. .	. .	. .	59.7	2.1	3.4	4.7	6.0	47 3.18	— 34.38	27.29	11 46 1.51	13.35
	(* 113) W	†50	12.1	14.1	15.3	24.9	26.0	27.0	28.2	29.3	38.9	40.1	41.9	52 27.07	— 0.14	—27.30	11 51 59.63	+ 13.09

30. Unsteady.
50. Very faint.

May 16, n. = —0.07.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
May 16,	12.1	— 27.30	— 0.019	— 0.14

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 16	* — 24° 2′	1	. .	. .	. .	5.5	6.7	7.8	9.2	10.5	. .	. .	. .	56 7.94	— 0.17	—27.30	11 55 40.47	+ 12.73
Y.	* — 30° 13′	2	27.4	29.7	30.9	42.3	43.4	44.8	46.1	47.3	58.5	59.9	2.1	59 44.75	0.12	27.30	11 59 17.34	12.63
	* — 30° 13′	3	. .	. .	. .	. .	. .	. .	29.0	31.8	33.3	34.6	36.3	0 33.00	38.52	27.30	11 59 27.18	12.63
	* — 32° 16′	4	. .	. .	. .	35.2	36.5	37.9	39.2	40.4	51.7	53.0	55.4	2 43.66	6.01	27.30	12 2 10.35	12.61
	O. Arg. S. 12037	5	15.8	18.2	19.6	30.6	31.8	33.1	34.4	35.6	46.4	47.8	50.0	9 33.03	0.12	27.30	12 9 5.61	12.75
	η Virginis	6	14.6	16.8	18.0	27.6	28.7	29.8	31.0	32.0	41.5	42.7	44.7	13 29.76	0.14	27.30	12 13 2.32	12.94
	Lacaille 5131	7	56.5	59.0	0.2	11.2	12.5	13.9	15.3	16.6	27.4	28.8	31.0	17 13.85	0.12	27.30	12 16 46.43	12.81
	Weisse 311	8	17.2	19.4	21.6	30.6	31.6	32.1	34.1	35.2	45.0	46.2	48.3	20 31.94	0.16	27.30	12 20 4.48	12.95
	O. Arg. S. 12219	9	42.6	45.0	46.3	57.5	58.6	0.1	1.4	2.6	13.7	15.0	17.3	25 0.02	— 0.12	27.31	12 24 32.59	12.88
	Polaris, S. P.	10	59.0	38.0	49.5	16.0	35.5	46.0	57.0	16.5	54.0	0.0	43.5	9 48.64	+ 8.52	27.32	1 9 29.84	107.72
	Saturn I	11	25.2	27.1	28.3	. .	. .	. .	. .	. .	52.1	53.3	55.4	36 40.23	— 0.09	27.33	13 36 12.81	. .
	Saturn II	12	. .	. .	. .	39.4	40.3	41.5	42.7	43.7	. .	. .	. .	36 41.52	0.18	27.33	13 36 14.01	. .
	* — 37° 28′	13	. .	. .	. .	37.5	39.2	41.6	0.5	3.2	4.8	6.4	8.0	43 55.15	32.50	27.33	13 42 55.32	13.96
	Lacaille 5758	14	53.5	56.2	57.7	10.0	11.0	12.4	14.0	15.3	27.2	28.8	31.3	49 12.49	0.12	27.33	13 48 45.04	14.06
	τ Virginis	15	1.7	3.8	5.0	14.7	15.7	16.8	18.0	19.0	28.5	29.7	31.8	55 16.79	0.14	27.33	13 54 49.32	12.54
	* — 14° 48′	16	3.5	4.5	5.8	7.0	9.6	. .	11.6	14.0	15.4	16.6	17.9	59 40.59	0.11	27.34	13 59 13.36	13.22
	* — 14° 50′	17	34.7	36.8	38.0	47.9	49.0	50.3	51.5	52.6	2.4	3.6	5.6	59 50.22	0.13	27.34	13 59 22.75	13.22
	ε Aquarii	18	36.3	38.5	39.7	49.4	50.5	51.7	53.0	54.0	3.6	4.8	6.8	40 51.66	0.13	27.46	20 40 24.07	14.20
	μ Aquarii	19	36.6	38.7	40.0	49.7	50.8	51.9	53.1	54.1	3.8	5.0	7.0	45 51.88	0.13	27.47	20 45 24.28	14.17
	Moon II	†20	50.6	52.6	53.9	4.1	5.2	6.4	7.6	8.7	18.5	19.8	21.9	8 6.30	0.13	27.47	21 7 28.70	. .
	β Aquarii	21	41.4	43.4	44.5	54.2	55.3	56.5	57.7	58.7	8.2	9.4	11.5	24 56.44	0.13	27.48	21 24 28.83	14.03
	β Cephei	22	40.5	46.8	50.3	18.3	21.3	24.8	28.4	31.4	58.8	2.7	8.4	27 24.70	0.60	27.48	21 26 56.62	1.92
	ε Pegasi	23	47.5	49.5	50.8	0.5	1.5	2.7	4.0	5.0	14.5	15.8	17.8	38 2.69	0.15	27.48	21 37 35.06	13.02
Tr.	Polaris	24	56.0	21.0	7.0	45.0	20.0	10.0	57.0	39.0	3.0	55.0	12.0	10 7.73	8.52	27.51	1 9 31.70	107.46
	β Arietis	25	23.7	25.7	27.2	37.5	38.6	39.7	40.9	42.2	52.3	53.6	55.7	48 39.74	0.17	27.53	1 48 12.04	+ 15.79
	Mercury II	†26	52.6	54.6	55.8	5.6	6.8	8.1	9.2	10.2	19.8	21.1	23.3	26 7.92	0.16	27.54	2 25 40.22	— 0.37
	Venus II	27	6.5	8.7	9.9	20.0	21.0	22.1	23.3	24.6	34.4	35.9	38.0	36 22.22	0.17	27.55	2 35 54.50	— 1.98
17	Sun I	28	. .	. .	. .	19.3	20.8	22.8	38.4	41.1	42.4	43.7	45.0	37 34.19	27.50	27.58	3 36 39.11	. .
	Sun II	29	5.6	7.8	8.9	19.1	20.4	21.6	23.0	24.0	34.1	35.4	37.4	39 21.57	— 0.17	27.58	3 38 53.82	. .
	α Tauri	30	23.3	25.3	26.6	36.6	37.8	38.9	40.1	41.3	. .	. .	. .	28 33.74	+ 4.99	27.61	4 28 11.12	+ 16.69
	β Tauri	31	56.8	59.1	0.5	11.5	12.6	14.0	15.4	16.6	27.3	28.8	31.1	18 13.97	— 0.20	27.63	5 17 46.14	18.31
	α Orionis	32	5.0	7.1	8.2	17.8	18.9	20.1	21.5	22.4	32.0	33.3	35.1	48 20.13	0.15	27.64	5 47 52.34	15.71
	α Canis Majoris	33	24.3	26.5	27.7	37.7	38.9	40.2	41.4	42.4	52.3	53.7	55.7	39 40.07	0.13	27.67	6 39 12.27	12.85
Y.	α Canis Minoris	34	27.6	29.6	30.8	40.4	41.5	. .	43.8	44.9	54.4	55.7	57.6	32 42.63	0.14	27.69	7 32 14.80	14.88
	β Geminorum	†35	14.7	16.9	18.4	29.4	30.5	31.9	33.2	34.4	44.9	46.5	48.8	37 31.78	0.20	. .		17.46
Tr.	η Virginis	36	15.2	17.2	18.4	28.0	29.1	30.3	. .	32.5	42.0	43.2	45.1	13 30.10	0.01	27.83	12 13 2.26	12.94
	O. Arg. S. 12173	37	36.9	39.3	40.5	51.7	52.9	54.3	55.6	56.6	7.5	9.1	11.3	20 54.16	0.16	27.83	12 20 26.17	12.86
	O. Arg. S. 12232	38	55.9	58.2	59.5	10.7	11.8	13.2	14.4	15.7	26.4	28.0	30.2	26 13.09	0.16	27.83	12 25 45.10	12.90
	* — 29° 22′	39	10.8	13.0	14.3	25.4	26.6	27.9	. .	30.6	41.3	42.7	45.2	27 27.78	0.02	27.84	12 26 59.92	12.91
	B. A. C. 4256	40	6.3	8.6	10.1	21.2	22.3	23.7	25.1	26.2	37.1	38.7	40.9	32 23.65	0.16	27.84	12 31 55.65	12.96
	O. Arg. N. 12996	41	. .	. .	. .	24.7	30.4	36.4	41.3	46.3	. .	. .	. .	41 35.82	0.90	27.84	12 41 7.08	7.07
	* — 38° 39′	42	. .	. .	. .	6.7	7.8	9.2	10.9	12.2	. .	. .	. .	46 9.36	0.24	27.84	12 45 41.28	13.13
	* — 39° 17′	43	38.8	41.1	. .	55.2	56.5	58.1	59.7	1.2	. .	14.6	17.3	51 58.06	0.19	27.85	12 51 30.02	13.22
	O. Arg. S. 12733	44	52.0	54.3	55.5	6.5	7.7	9.2	10.5	11.7	22.4	24.0	26.3	8 9.10	— 0.16	27.85	13 7 41.09	13.31
	Polaris, S. P.	45	3.0	40.0	52.0	. .	. .	. .	. .	. .	57.0	3.0	47.0	9 53.67	+ 4.12	27.85		107.20
	Lacaille 5478	46	12.7	14.9	16.4	27.1	28.3	29.7	30.9	32.2	42.9	44.2	46.5	11 29.62	— 0.16	27.86	13 11 1.60	13.31
	Lacaille 5502	47	27.1	29.7	31.3	43.6	44.9	46.3	47.9	49.3	1.3	2.8	5.4	14 46.33	0.18	27.86	13 14 18.29	13.56
	Lacaille 5569	48	. .	. .	. .	42.3	43.7	45.4	46.7	48.0	. .	. .	. .	23 45.22	0.24	27.86	13 23 17.12	13.71
	O. Arg. S. 13003	49	1.7	4.0	5.4	16.5	17.7	18.9	20.3	21.5	32.3	33.9	36.1	31 18.94	— 0.16	27.87	13 30 50.91	+ 13.17
	Saturn I	50	50.7	51.9	53.3	54.6	56.9	. .	57.5	59.8	1.1	2.3	3.6	36 27.17	+ 0.09	—27.87	13 35 59.39	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 17, 12.6	— 27.84	— 0.029	— 0.14
2.0	— 27.89	— 0.029	

20. Serrated.
26. Very faint.
35. Very steady.

s
May 17, 0h. to 8h. n. = — 0.07.
12h. to 15h. 0.00.
20h. to 4h. — 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 17	Saturn II	1	13.5	15.4	16.7	26.4	27.5	28.7	29.9	30.8	40.4	41.7	43.7	36 28.61	— 0.14	—27.87	13 36 0.60	. .
Tr.	* — 37° 55′	2	31.2	33.6	35.2	47.5	48.7	50.2	51.7	53.2	5.2	6.7	9.1	44 50.21	0.18	27.87	13 44 22.16	+ 14.01
	* — 37° 59′	3	26.1	28.6	30.1	42.3	43.6	45.2	46.6	48.0	59.8	1.5	4.0	48 45.07	0.18	27.87	13 48 17.02	14.07
	Weisse 931	4	36.1	37.3	. .	39.8	42.3	. .	42.4	44.6	45.8	47.0	48.3	55 15.96	3.65	27.88	13 54 44.43	12.52
	τ Virginis	5	2.3	4.4	5.5	15.1	16.1	17.5	18.6	19.6	29.1	30.4	32.3	55 17.36	0.14	27.88	13 54 49.34	12.54
	O. Arg. S. 13387	6	. .	. .	. .	48.7	49.9	51.1	52.5	53.5	4.2	5.5	7.7	59 56.64	5.73	27.88	13 59 23.03	13.71
	* — 26° 35′	7	27.8	30.2	31.5	42.0	43.3	44.6	45.9	47.1	57.8	59.1	1.4	0 44.61	0.16	27.88	14 0 16.57	13.72
	Lacaille 5872	8	33.0	35.4	36.8	48.4	49.6	51.0	52.4	53.5	4.8	6.4	8.7	8 50.91	0.17	27.88	14 8 22.86	14.08
	Lacaille 5883	9	38.7	41.2	42.5	53.8	55.2	56.5	57.9	59.1	10.5	11.9	14.2	10 56.50	0.17	27.89	14 10 28.44	14.11
	* — 38° 4′	10	45.6	48.1	49.6	1.8	3.2	4.7	6.5	7.5	19.7	21.1	23.7	14 4.68	0.18	27.89	14 13 36.61	14.46
	Weisse 293	11	31.6	33.7	34.8	44.9	45.9	47.1	48.3	49.4	59.0	0.4	2.4	17 47.05	0.14	27.89	14 17 19.02	13.21
	Weisse 316	12	19.5	21.6	22.7	32.8	33.8	35.0	36.3	37.2	47.0	48.3	50.3	18 34.95	0.14	27.89	14 18 6.92	13.22
	Lacaille 5963	13	2.4	4.9	6.2	18.6	20.1	21.6	23.2	24.4	36.5	37.9	40.6	23 21 49	0.18	27.89	14 22 53.42	14.61
	* — 36° 56′	14	2.8	5.2	6.5	18.7	20.0	21.6	23.0	24.4	36.3	37.7	39.9	29 21.46	0.18	27.89	14 28 53.39	14.60
	Lacaille 6047	15	19.9	22.1	23.5	34.3	35.5	36.7	38.1	39.2	49.6	51.0	53.2	33 36.65	— 0.16	27.90	14 33 8.59	13.96
	54 Hydræ, (1st *)	16	2.6	4.2	5.6	6.9	9.6	. .	15.8	18.3	19.6	21.0	22.5	38 42.61	+ 0.10	27.90	14 38 14.81	13.95
	54 Hydræ, (2d *)	17	26.7	29.0	30.4	41.0	42.1	43.4	44.8	45.8	56.4	57.8	59.8	38 43.38	— 0.15	27.90	14 38 15.33	13.95
	8 Libræ	18	6.8	8.1	9.4	10.7	13.2	. .	15.6	18.0	19.2	20.5	22.0	43 44.35	+ 0.09	27.90	14 43 16.54	13.41
	α Libræ	19	40.3	42.4	43.6	53.7	54.8	56.0	57.4	58.3	8.1	9.4	11.5	43 55.95	— 0.15	27.90	14 43 27.90	13.37
	ν Cygni	20	19.1	21.7	23.4	36.0	37.4	39.0	40.5	41.8	54.4	56.0	58.5	52 38.89	— 0.27	28.08	20 52 10.54	9.18
	61¹ Cygni	21	35.0	36.6	38.4	39.9	43.0	. .	59.3	2.2	3.8	5.3	6.9	1 21.04	+ 0.03	28.08	21 0 52.99	9.73
	B. A. C. 7337	22	3.6	6.3	7.7	20.1	21.4	22.8	24.4	25.6	37.8	39.3	41.7	1 22.79	— 0.26	28.08	21 0 54 45	9.73
	ζ Cygni	23	24.4	26.7	28.1	39.1	40.4	41.7	43.2	44.4	55.1	56.7	58.9	7 41.70	0.22	28.09	21 7 13.39	10.84
	α Cephei	24	19.8	24.2	26.8	47.3	49.6	52.2	54.8	56.8	17.1	19.7	23.9	16 52.02	0.49	28.09	21 16 23.44	5.12
	β Aquarii	25	41.9	44.0	45.2	54.9	56.0	57.2	58.5	59.5	8.8	10.2	12.2	24 57.13	0.13	28.10	21 24 28.90	14.00
	ε Pegasi	26	48.1	50.2	51.4	1.1	2.3	3.5	4.7	5.6	15.2	16.5	18.4	38 3.36	0.16	28.10	21 37 35.10	12.99
	α Aquarii	27	5.9	7.9	9.0	18.7	19.7	20.9	22.0	23.1	32.6	33.9	35.8	59 20.86	0.14	28.11	21 58 52.61	13.81
	Moon II	28	33.3	35.5	36.7	46.6	47.7	48.8	50.3	51.2	1.1	2.2	4.5	3 48.90	— 0.13	28.11	22 3 20.66	. .
Y.	Polaris	29	26.5	20.5	15.0	4.0	37.0	0.0	22.0	7.0	. .	. .	. .	52 31.50	+17 27.38	28.20		96.94
	α Arietis	†30	. .	. .	. .	. .	. .	. .	. .	37.1	39.1	40.4	41.9	0 39.82	— 37.10	27.89		+ 16.12
	Venus II	†31	41.1	43.1	44.4	54.8	55.8	57.0	58.2	59.2	9.3	10.5	12.4	34 56.89	— 0.18	27.91	2 34 28.80	— 1.96
18	Sun I	32	49.9	52.0	53.2	. .	. .	. .	. .	. .	. .	. .	. .	40 51.70	+ 13.97	27.94	3 40 37.73	. .
	Sun II	33	4.6	6.7	8.0	18.1	. .	20.6	21.8	23.0	33.0	34.4	36.4	43 20.66	— 0.30	27.94	3 42 52.42	. .
22	Polaris	34	. .	. .	. .	32.0	11.0	2.5	49.0	32.0	. .	. .	. .	10 1.30	+ 1.03	29.28	-1 9 33.05	+ 103.59
	β Arietis	35	25.5	27.6	28.8	39.0	40.0	41.3	42.6	43.7	53.9	55.1	57.4	47 41.35	0.08	29.32	1 47 12.11	15.65
	α Arietis	36	48.1	50.2	51.7	1.7	2.8	4.2	5.5	6.6	17.1	18.3	20.6	0 4.25	0.07	29.33	1 59 34.99	+ 16.00
	Venus II	37	21.6	23.0	24.3	25.4	28.1	43.3	45.4	46.7	. .	. .	. .	29 32.22	26.71	29.35	2 29 29.58	— 1.84
	Mercury II	38	47.5	49.4	50.8	0.6	1.6	2.8	4.0	5.1	14.9	16.2	18.4	34 2.85	0.09	29.36	2 33 33.58	— 0.32
23	Sun I	39	51.9	53.9	55.2	5.3	6.5	7.8	9.0	10.2	20.4	21.8	24.0	1 7.82	0.08	29.43	4 0 38.47	. .
	Sun II	40	7.4	9.5	11.0	21.1	22.2	23.4	24.7	25.9	36.1	37.4	39.6	3 23.48	0.08	29.43	4 2 54.13	. .
	ϑ Orionis	41	17.5	19.5	20.7	30.3	31.3	32.4	33.7	34.8	44.6	45.8	47.8	8 32.58	+ 0.14	29.49	5 8 3.23	+ 14.18
	β Tauri	42	13.0	14.2	15.7	17.0	18.2	. .	50.0	52.7	54.3	55.8	57.1	18 34.80	— 19.05	29.50	5 17 46.25	18.30
	α Orionis	43	6.6	8.6	9.8	19.5	20.4	21.7	22.9	24.0	33.6	34.7	37.0	48 21.71	+ 0.10	29.52	5 47 52.29	15.72
	α Canis Minoris	44	29.3	31.2	32.6	42.1	43.1	44.3	45.5	46.6	56.2	57.5	59.5	32 44.38	0.11	29.61	7 32 14.88	14.93
	β Geminorum	45	16.6	18.8	20.3	30.9	32.2	33.5	34.9	36.1	47.0	48.4	50.7	37 33.58	0.06	29.61	7 37 4.03	17.53
	* — 35° 16′	46	10.7	13.1	14.6	26.2	27.3	28.7	30.3	31.7	43.5	44.9	47.3	36 28.94	+ 0.25	29.87	12 35 59.32	13.05
	O. Arg. N. 12996	47	25.5	33.5	39.6	25.3	29.8	35.9	42.2	47.3	33.5	39.1	49.1	41 36.51	— 0.08	29.87	12 41 6.56	7.54
	Polaris, S. P.	48	36.0	55.0	6.0	17.0	34.5	. .	37.0	59.0	8.0	16.5	22.0	58 41.10	+11 23.54	29.89	1 9 34.75	103.17
	ζ Virginis	49	6.5	8.5	9.6	19.2	20.2	21.4	22.6	23.5	33.3	34.3	36.4	28 21.42	0.12	29.91	13 27 51.63	+ 12.62
	Saturn I	50	59.0	0.9	2.2	11.7	12.8	14.0	15.1	16.2	25.9	27.1	29.2	35 14.02	+ 0.14	—29.92	13 34 44.24	. .

30. Faint.
31. Unsteady.

May 19. 4h. Image west 0.42. Clamp west.
Image east 0.02. Clamp east.
Changed the level cor. slightly.

May 22–23. By P., P. S. P., and P., n. = —0.14.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
May 23, 8.5	— 29.66	— 0.051	+ 0.12

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1865.																		
May 23	Saturn II	1	38.9	40.3	41.5	42.8	45.1	. .	45.7	48.0	49.2	50.4	52.0	35 15.39	— 0.09	—29.92	13 34 45.38	. .
Y.	Lacaille 5729	2	17.0	19.4	21.0	32.6	33.7	35.2	36.6	37.9	49.7	51.0	53.5	46 35.24	+ 0.25	29.93	13 46 5.56	+ 13.92
	* — 37° 59′	3	43.8	45.2	46.6	48.0	49.5	. .	24.9	28.1	29.6	31.4	32.9	49 8.00	— 21.06	29.93	13 48 17.01	14.09
	Lacaille 5783	4	24.6	27.1	28.7	41.1	42.3	43.8	45.4	46.9	59.2	0.7	3.5	53 43.94	+ 0.27	29.94	13 53 14.27	14.23
	Lacaille 5798, (1st *)	5	. .	. .	. .	. .	. .	. .	13.2	16.3	17.7	19.5	21.1	57 17.56	— 41.65	29.94	13 56 5.97	14.13
	Lacaille 5798, (2d *)	6	19.1	21.7	23.1	35.1	36.3	37.7	39.2	40.5	52.6	53.9	56.6	56 37.80	+ 0.26	29.94	13 56 8.12	14.14
	Lacaille 5822	7	. .	. .	. .	. .	. .	. .	18.2	21.3	22.7	24.3	25.9	0 22.48	— 40.73	29.94	13 59 11.81	14.10
	Lacaille 5872	8	. .	. .	. .	. .	. .	. .	28.5	31.4	32.8	34.4	35.9	9 32.60	39.70	29.95	14 8 22.95	14.09
	Weisse 199, (1st *)	9	10.2	11.6	12.8	14.0	16.5	. .	17.9	20.6	21.8	23.1	24.4	12 47.29	— 0.07	29.95	14 12 17.27	13.1[illegible]
	Weisse 199, (2d *)	10	32.0	34.0	35.2	45.1	46.1	47.3	48.5	49.5	59.4	0.7	2.6	12 47.31	+ 0.16	29.95	14 12 17.52	13.1[illegible]
	Weisse 293	11	33.5	35.5	36.7	46.5	47.6	48.8	50.0	51.1	1.0	2.2	4.3	17 48.84	+ 0.16	29.96	14 17 19.04	13.21
	Weisse 316	12	. .	. .	. .	48.9	50.2	52.3	7.9	10.3	11.6	13.0	14.3	19 3.56	— 26.58	29.96	14 18 7.02	13.21
	O. Arg. S. 13697	13	31.6	33.7	35.1	45.9	47.0	48.3	49.6	50.8	1.6	2.8	5.1	24 48.32	+ 0.21	29.96	14 24 18.57	13.95
	O. Arg. S. 13747	14	53.1	55.4	56.7	7.4	8.5	9.8	11.1	12.4	23.3	24.7	27.0	29 9.96	+ 0.21	29.96	14 28 40.21	14.02
	O. Arg. S. 13813	15	28.2	29.7	31.0	32.3	35.0	. .	41.5	44.3	45.6	47.0	48.0	33 8.32	— 0.05	29.97	14 32 38.30	13.94
	O. Arg. S. 13814	16	56.5	58.5	59.8	10.5	11.6	12.9	14.2	15.3	26.0	27.3	29.6	33 12.93	+ 0.20	29.97	14 32 43.16	+ 13.94
	Schwerd 853	17	32.9	44.4	51.9	46.6	53.7	0.9	8.0	14.0	10.6	17.6	30.0	38 0.96	— 0.11	29.97	14 37 30.88	— 12.93
	a^2 Libræ	18	42.3	44.5	45.6	55.5	56.6	57.8	59.1	0.1	10.3	11.4	13.4	43 57.87	+ 0.16	29.98	14 43 28.05	+ 13.35
	B. A. C. 4920	19	19.2	21.3	22.7	33.1	34.3	35.6	37.0	38.2	48.8	50.0	52.5	49 35.70	0.20	29.98	14 49 5.92	14.06
	* + 10° 28′	20	43.5	45.4	46.7	56.4	57.4	58.6	59.7	0.9	10.6	11.8	13.8	57 58.62	0.10	29.99	14 57 28.73	11.73
	Weisse 1144	21	36.3	38.6	39.9	. .	. .	. .	. .	. .	3.9	5.0	7.0	1 51.80	+ 0.11	29.99	15 1 21.92	13.18
	Weisse 1149	22	. .	. .	. .	19.6	20.9	22.9	38.4	40.8	42.0	43.4	44.7	2 34.09	— 26.38	29.99	15 1 37.72	13.19
	Weisse 3	23	. .	. .	. .	2.2	3.5	5.6	21.1	23.5	24.7	25.9	27.3	3 16.73	— 26.35	29.99	15 2 20.39	13.17
	β Libræ	24	2.6	4.5	5.8	15.4	16.4	17.6	18.8	19.8	29.6	30.9	33.0	10 17.67	+ 0.14	30.00	15 9 47.81	13.00
	(* 117) W	25	9.9	13.6	15.8	32.6	34.5	36.5	38.8	40.4	57.8	59.8	3.6	17 36.67	0.01	30.00	15 17 6.67	5.29
	O. Arg. N. 15370	26	38.2	41.5	43.6	58.8	0.1	1.9	4.0	5.7	21.1	22.8	26.1	22 2.16	0.02	30.01	15 21 32.17	6.39
	Weisse 444	27	17.1	19.1	20.4	29.8	30.9	32.2	33.4	34.5	44.3	45.4	47.6	25 32.25	0.14	30.01	15 25 2.38	13.07
	a Coronæ Borealis	†28	14.3	16.3	17.8	28.5	29.6	30.9	32.3	33.4	44.5	45.6	47.9	29 31.01	0.06	30.02	15 29 1.05	10.02
Tr.	Polaris	29	. .	. .	. .	36.0	14.0	3.0	53.0	37.0	. .	. .	. .	10 4.60	1.03	30.45	1 9 34.18	+ 102.76
	Venus II	†30	11.6	13.5	14.9	24.9	25.9	27.1	28.4	29.4	39.4	40.7	42.8	29 27.15	0.09	30.53	2 28 56.71	— 1.81
	Mercury II	†31	1.4	3.5	4.7	14.2	15.2	16.4	17.6	18.6	28.6	29.8	32.0	36 16.54	+ 0.09	30.54	2 35 46.09	— 0.31
	a Ceti	†32	. .	. .	. .	. .	. .	. .	14.8	17.0	18.4	19.6	20.9	56 18.14	— 33.60	30.56	2 55 13.98	+ 15.17
24	Sun I	†33	54.9	56.4	57.4	7.4	8.3	10.0	11.6	12.6	23.2	24.6	26.6	5 10.27	+ 0.08	30.62	4 4 39.73	. .
	Sun II	34	10.7	12.7	14.4	24.5	25.5	26.9	28.1	29.4	39.5	40.7	43.2	7 26.87	0.08	30.62	4 6 56.33	. .
	β Orionis	35	18.9	20.8	22.0	31.8	32.6	33.9	35.1	36.1	45.9	46.9	49.1	8 33.85	0.14	30.68	5 8 3.31	14.17
	ϵ Orionis	†36	38.0	39.9	41.1	50.4	51.4	52.6	53.8	54.9	4.6	5.7	7.5	29 52.72	0.12	30.70	5 29 22.14	14.85
	Lacaille 5342	37	49.7	52.0	53.9	6.1	7.3	8.9	10.4	11.7	23.9	25.6	28.0	51 8.86	0.21	31.12	12 50 37.95	13.26
	Lacaille 5346	38	39.1	41.6	43.2	. .	56.5	58.0	59.5	. .	13.3	14.7	17.4	51 58.14	0.21	31.12	12 51 27.23	13.25
	O. Arg. S. 12626	39	9.5	11.4	12.6	22.5	23.7	24.9	26.0	27.2	37.0	38.2	40.5	58 24.86	+ 0.15	31.13	12 57 53.88	13.08
	O. Arg. S. 12630	40	. .	. .	. .	55.3	56.4	58.5	14.2	16.8	18.0	19.2	20.5	59 9.86	— 26.76	31.13	12 58 11.97	13.08
	Weisse 16	41	55.3	56.5	57.7	59.0	1.2	. .	1.5	4.0	5.2	6.4	7.8	3 31.46	— 0.10	31.13	13 3 0.23	12.91
	θ Virginis	42	16.3	18.3	19.7	29.2	30.1	31.3	32.5	33.6	43.2	44.2	46.5	3 31.37	+ 0.13	31.13	13 3 0.37	12.90
	Polaris, S. P.	43	. .	. .	. .	40.0	0.0	12.0	22.0	41.0	. .	. .	. .	10 11.00	— 5.11	31.14		102.35
	Lacaille 5569	44	29.0	31.2	33.0	45.0	46.3	47.8	49.4	51.0	3.0	4.6	6.3	23 47.87	+ 0.21	31.15	13 23 16.93	13.75
	ζ Virginis	45	7.7	9.7	11.0	20.3	21.3	22.5	23.7	24.7	34.5	35.6	37.7	28 22.61	0.13	31.16	13 27 51.58	12.63
	* — 38° 19′	46	4.8	7.0	8.6	19.2	20.5	21.8	23.2	24.4	35.5	36.8	39.1	31 21.90	0.21	31.16	13 30 50.95	13.85
	* — 38° 0′	47	5.0	7.4	9.0	21.1	22.3	23.9	25.5	26.6	39.1	40.4	43.1	34 23.95	0.21	31.16	13 33 53.00	13.88
	τ Virginis	48	5.4	7.4	8.7	18.2	19.2	20.3	21.6	22.6	. .	. .	. .	55 15.43	5.12	31.18	13 54 49.37	+ 12.56
	Mercury II	49	. .	31.1	32.5	41.9	43.1	44.5	45.5	46.6	56.4	57.8	. .	38 44.38	+ 0.13	—31.80	2 38 12.71	— 0.31

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
May 24,	9.0 — 30.90	— 0.057	+ 0.13

28. Unsteady.
30. Tremulous.
31. Faint.
32. Very faint.
33. Tremulous.
36. Tremulous.

May 24–25, n. = — 0.05 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 25	Sun I	1	58.0	0.3	1.5	11.7	12.8	14.2	15.5	16.7	26.9	28.3	30.4	9 14.21	+ 0.12	—31.82	4 8 42.51	. .
Tr.	Sun II	2	14.3	16.2	17.8	27.9	29.0	30.1	31.3	32.3	43.0	44.4	46.5	11 30.25	0.12	31.82	4 10 58.55	. .
	α Orionis	3	8.9	10.8	12.4	21.9	22.9	24.0	25.2	26.2	36.0	37.3	39.1	48 24.06	+ 0.14	31.85		+ 15.72
	8 Libræ	4	11.3	12.7	14.0	15.2	17.5	. .	19.9	22.4	23.6	24.9	26.4	43 48.79	— 0.09	31.99	14 43 16.71	13.39
	α Libræ	5	44.3	46.3	. .	57.6	58.7	59.9	1.2	2.2	. .	13.2	15.5	43 59.88	+ 0.16	31.99		13.35
28	Polaris	6	. .	. .	. .	12.0	59.0	21.0	41.0	18.0	6.0	59.0	53.0	27 48.62	—17 39.12	32.27	1 9 37.23	99.02
29	Sun I	7	12.9	15.0	16.4	26.6	27.7	28.9	30.1	31.5	41.8	42.9	45.3	25 29.01	+ 0.08	32.36	4 24 56.73	. .
	Sun II	8	29.4	31.4	32.9	43.2	44.2	45.5	46.7	48.0	58.5	59.7	1.8	27 45.57	+ 0.08	32.36	4 27 13.29	. .
	α Orionis	9	. .	. .	. .	36.4	37.7	39.8	55.2	57.6	58.8	0.0	1.4	48 50.86	— 26.11	32.40	5 47 52.35	15.71
	α^1 Geminorum	10	49.2	50.8	52.5	53.9	56.5	. .	7.5	10.3	11.8	13.4	14.8	26 32.07	— 0.23	32.45	7 25 59.39	18.43
	α^2 Geminorum	11	14.6	16.7	18.4	29.5	30.7	32.1	33.5	34.9	46.0	47.4	50.0	26 32.16	+ 0.04	32.45	7 25 59.75	18.37
	α Canis Minoris	12	32.2	34.1	35.5	44.0	46.0	47.1	48.3	49.4	59.1	0.3	2.3	32 47.12	0.13	32.45	7 32 14.80	14.97
	β Geminorum	13	19.5	21.7	23.0	33.9	35.0	36.3	37.7	38.8	50.0	51.2	53.5	37 36.42	0.06	32.46	7 37 4.02	17.57
	Moon I	14	4.2	6.1	7.5	17.4	. .	19.7	20.9	22.0	32.2	. .	35.5	46 18.39	1.46	32.49	8 45 47.36	. .
E.	α Canum Venaticorum	15	58.1	0.5	2.1	14.4	15.6	17.1	18.7	20.0	32.5	33.9	36.6	50 17.23	0.02	32.69	12 49 44.56	12.04
	O. Arg. S. 12671	16	43.5	45.5	46.8	57.3	58 4	59.6	0.7	1.9	12.4	13.8	15.9	1 59.62	0.25	32.70	13 1 27.17	13.24
	Polaris, S. P.	17	. .	. .	. .	43.0	0.0	11.0	22.0	37.5	. .	. .	. .	10 10.70	0.56	32.70	1 9 38.56	98.69
	O. Arg. S. 12808	18	44.5	46.5	48.0	58.4	59.5	0.6	2.0	3.1	13.7	14.9	17.1	14 0.75	0.25	32.70	13 13 28.30	13.31
	Lacaille 5514	19	52.3	54.6	56.1	7.4	8.6	. .	11.4	. .	24.1	25.4	28.0	16 9.77	0.59	32.70	13 15 37.66	13.53
	* — 32° 46′	†20	16.0	18.4	20.0	31.1	32.3	33.7	35.2	36.4	48.0	49.3	51.5	21 33.81	0.31	32.71	13 21 1.41	13.60
	* — 22° 55′	21	4.6	6.7	8.2	18.3	19.6	20.8	22.1	23.2	33.7	35.0	37.2	30 20.85	0.25	32.71	13 29 48.39	13.40
	Saturn I	22	35.2	36.5	37.7	39.0	41.3	. .	41.8	. .	43.3	46.8	48.0	34 7.96	3.57	32.71	13 33 38.82	. .
	Saturn II	23	57.6	59.6	1.0	10.4	11.4	12.5	13.8	14.9	24.5	25.6	27.8	34 12.65	0.18	32.71	13 33 40.12	. .
	O. Arg S. 13085	24	39.5	41.8	43.1	53.8	55.1	56.4	57.6	58.7	9.7	11.2	13.5	36 56.40	0.28	32.71	13 36 23.97	13.60
	* — 37° 30′	25	35.6	38.0	39.6	51.6	52.9	54.4	55.8	57.1	9.4	10.6	13.4	40 54.40	0.35	32.71	13 40 22.04	13.99
	O. Arg. S. 13215	26	25.0	27.0	28.4	39.0	40.2	41.4	42.8	43.8	54.7	56.0	58.3	46 41.51	0.27	32.72	13 46 9.06	13.61
	η Bootis	27	34.7	36.6	38.2	48.1	49.2	50.4	51.7	52.8	3.2	4.4	6.4	48 50.52	0.09	32.72	13 48 17.89	11.82
	τ Virginis	28	7.0	8.9	10.2	19.7	20.8	22.0	23.2	24.1	33.7	34.9	37.1	55 21.96	+ 0.14	32.72	13 54 49.38	12.57
	θ Bootis	29	46.8	49.8	52.0	7.0	8.7	10.8	12.9	14.6	30.5	32.4	35.9	21 11.03	— 0.03	32.73	14 20 38.27	7.87
Y.	Polaris	30	40.0	25.0	17.0	40.5	20.0	9.0	57.0	39.0	12.5	53.0	20.0	10 11.40	0.00	32.51	1 9 38.89	98.37
	α Arietis	31	51.2	53.5	54.9	5.1	6.2	7.6	8.8	9.9	20.5	21.8	24.0	0 7.59	+ 0.10	32.54	1 59 35.15	+ 15.85
	Venus II	32	2.2	4.0	5.4	15.2	16.3	17.6	18.7	19.8	29.7	30.9	33.0	29 17.53	0.12	32.56	2 28 45.09	— 1.67
	Mercury II	33	12.4	14.4	15.7	25.5	26.5	27.7	28.9	30.0	39.9	41.2	43.2	54 27.76	0.12	32.57	2 53 55.31	0.28
30	Sun II	34	34.3	36.4	37.8	47.7	48.8	50.0	51.4	52.6	3.0	4.0	6.6	31 50.27	0.10	32.63	4 31 17.74	— 68.25
	α Canis Majoris	35	29.1	31.1	32.3	42.3	43.2	44.5	45.7	46.8	57.0	58.3	0.4	39 44.61	0.20	32.69	6 39 12.12	+ 12.93
	α Canis Minoris	36	32.3	34.3	35.7	45.0	46.1	47.3	48.5	49.5	59.3	0.5	2.5	32 47.36	0.14	32.72	7 32 14.78	14.98
	β Geminorum	37	19.4	21.9	23.2	34.0	35.1	36.5	37.8	39.0	50.0	51.4	53.8	37 36.55	0.09	32.73	7 37 3.91	17.58
	Moon I	38	23.3	25.2	26.6	36.4	37.5	38.6	39.9	41.0	51.0	52.2	54.3	36 38.73	0.13	32.79	9 36 6.07	. .
	α Leonis	39	29.7	31.7	32.9	42.6	43.7	45.0	46.1	47.3	57.3	58.3	0.5	1 45.01	0.12	32.81	10 1 12.32	14.58
	53 Virginis	40	12.5	14.7	16.9	25.7	26.8	28.1	29.3	30.3	40.4	41.6	43.7	5 28.12	0.24	32.91	13 4 55.45	13.14
	Polaris, S. P.	41	19.5	59.0	8.0	. .	. .	. .	. .	. .	12.0	22.0	0.0	10 10.08	1.56	32.91	1 9 38.73	98.04
	ζ Virginis	42	9.4	11.3	12.5	22.0	23.0	24.3	25.4	26.5	. .	. .	. .	28 19.30	+ 5.13	32.92	13 27 51.51	12.66
	Saturn I	43	25.7	27.1	28.3	29.5	30.8	. .	32.4	34.8	36.0	37.3	38.7	34 2.06	— 0.06	32.92	13 33 29.08	. .
	Saturn II	44	48.1	50.0	51.3	0.9	1.8	3.0	4.3	5.2	14.9	16.2	18.3	34 3.09	+ 0.17	32.92	13 33 30.34	. .
	τ Virginis	45	7.1	9.1	10.5	20.0	21.1	22.3	23.4	24.4	34.0	35.1	37.1	55 22.19	0.14	32.94	13 54 49.39	12.58
	Lacaille 5856	46	21.5	23.9	25.2	35.8	36.9	38.3	39.5	40.7	51.5	52.9	55.2	5 38.31	0.24	32.94	14 5 5.61	13.78
	Weisse 199	47	34.9	36.9	38.2	47.8	48.9	50.2	51.4	52.4	2.3	3.4	5.4	12 50.16	0.19	32.95	14 12 17.40	13.19
	Weisse 293	48	36.5	37.6	39.8	49.5	50.6	51.8	53.0	54.1	4.2	5.2	7.4	17 51.79	0.19	32.95	14 17 19.03	13.27
	ρ Bootis	49	18.5	20.9	22.3	33.3	34.5	36.0	37.3	38.6	49.9	51.2	53.5	26 36.00	+ 0.08	32.95	14 26 3.13	10.47
Tr.	Polaris	50	. .	. .	. .	. .	. .	. .	39.0	18.0	7.0	1.0	55.0	33 0.00	—22 47.01	. .		+ 97.71
	Venus II	51	30.8	32.8	34.4	44.1	45.1	46.2	47.5	48.6	58.4	59.7	1.7	29 46.30	+ 0.12	—33.42	2 29 13.00	— 1.62

20. Faint.

May 28–29. P. and P. S. P., . . n. = s. —0.21.
29–30. P., P. S. P., and P., —0.15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
May 25, 10.2	— 31.92	— 0.016	+ 0.13
29, 7.1	32.44	0.030	+ 0.15
13.5	32.71	0.030	
30, 9.5	— 32.79	— 0.033	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 31	Sun I	1	23.5	25.6	26.9	37.2	38.4	39.6	40.7	42.0	52.5	53.7	56.0	33 39.64	+ 0.10			
Tr.	Sun II	2	40.2	42.3	43.5	53.8	54.9	56.2	57.5	58.8	9.0	10.4	12.4	35 56.27	0.10			
June 1	δ Leonis	3	14.7	16.9	18.3	28.4	29.5	30.7	32.0	33.1	43.5	44.8	47.0	7 30.81	0.14	—33.72	11 6 57.23	+ 14.32
Y.	Moon I	†4	16.7	18.5	19.8	29.4	30.6	31.8	32.9	34.0	43.9	45.1	47.2	11 31.81	0.17	33.72	11 10 58.26	
	β Leonis	5	30.3	32.4	33.7	43.4	44.6	45.8	47.0	48.1	58.1	59.4	1.4	42 45.84	0.14	33.72	11 42 12.26	13.42
	β Virginis	6	0.5	2.5	3.6	13.2	14.2	15.3	16.5	17.6	27.3	28.5	30.5	44 15.43	0.17	33.72	11 43 41.88	13.36
	η Virginis	7	20.8	22.7	24.1	33.5	34.5	35.7	36.9	37.9	47.5	48.7	50.8	13 35.74	0.17	33.72	12 13 2.19	13.13
	Weisse 497	8	54.2	56.3	57.6	7.2	8.3	9.5	10.6	11.8	21.8	23.0	25.1	31 9.58	0.15	33.71	12 30 36.02	12.99
	θ Virginis	9	18.8	20.7	22.0	31.6	32.6	33.7	34.9	36.0	45.6	46.8	48.9	3 33.78	0.18	33.71	13 3 0.25	12.96
	53 Virginis	10	13.4	15.5	16.7	26.4	27.6	28.8	30.0	31.1	41.1	42.2	44.5	5 28.84	0.21	33.71	13 4 55.34	13.16
	Weisse 131	11	24.7	26.8	28.0	37.0	38.6	39.8	40.9	42.0	51.7	52.8	55.0	9 39.81	0.18	33.71	13 9 6.28	12.96
	Polaris, S. P.	12	..	..	..	..	..	..	48.0	10.5	20.5	28.5	34.5	47 28.40	22 44.90	33.71	..	96.67
	Weisse 304	13	5.9	7.8	9.2	18.5	19.6	20.8	22.0	23.1	32.9	33.9	36.1	20 20.89	+ 0.18	33.71	13 19 47.36	12.95
	Weisse 354	14	..	..	..	..	..	..	47.1	49.6	50.9	52.2	53.4	23 50.64	— 33.50	33.71	13 22 43.43	12.73
	O. Arg. S. 13003	15	7.4	9.5	10.9	21.8	23.0	24.1	25.4	26.8	37.9	39.3	41.5	31 24.15	+ 0.26	33.71	13 30 50.70	13.61
	Saturn I	16	28.9	30.9	32.2	41.7	42.8	43.9	45.1	46.2	56.0	57.0	59.1	33 43.98	+ 0.21	33.70	13 33 10.49	
	Saturn II	17	8.9	10.2	11.5	12.7	15.0	..	15.5	17.9	19.1	20.5	21.8	33 45.31	— 0.02	33.70	13 33 11.59	
	Lacaille 5773	18	42.4	44.6	45.9	56.4	57.5	58.9	0.0	1.2	12.1	13.3	15.6	50 58.90	+ 0.25	33.70	13 50 25.45	13.63
	τ Virginis	19	7.9	9.9	11.2	20.6	21.7	22.8	24.0	25.1	34.7	35.8	38.0	55 22.88	0.17	33.70	13 54 49.35	12.59
	Lacaille 5839	20	17.7	20.0	21.3	32.6	33.6	35.0	36.4	37.7	49.0	50.0	52.7	3 35.09	0.27	33.70	14 3 1.66	14.00
	Lacaille 5872	21	38.6	40.8	42.3	53.7	54.8	56.1	57.6	58.9	10.3	11.6	14.1	8 56.26	0.28	33.70	14 8 22.84	14.11
	Lacaille 5883	22	44.1	46.5	47.8	59.3	0.3	1.7	3.1	4.5	16.0	17.3	19.7	11 1.85	0.28	33.70	14 10 28.43	+ 14.13
	Schwerd 835	23	1.0	11.4	19.1	13.6	19.5	26.4	33.3	38.9	34.0	40.6	53.0	19 26.44	0.30	33.70	14 18 53.04	— 8.98
	Lacaille 5983	24	29.7	32.1	33.5	44.4	45.6	46.9	48.3	49.5	0.7	2.0	4.4	25 47.01	0.27	33.70	14 25 13.58	+ 14.13
	Schwerd 853	25	36.5	47.5	55.5	51.1	57.5	3.9	10.9	17.0	14.1	21.0	33.4	38 4.39	0.31	33.70	14 37 11.00	— 12.36
	Lalande F. 2537	26	..	..	..	30.3	36.4	43.2	50.5	56.9	..	..	..	43 43.46	0.58	33.70	14 43 10.34	13.48
	β Ursæ Minoris	27	47.8	55.3	59.9	35.5	39.8	44.0	48.7	52.7	29.3	33.7	41.4	51 44.37	0.21	33.69	14 51 10.89	— 4.04
	Weisse 1149	28	56.1	58.1	59.3	9.0	10.0	11.2	12.4	13.5	23.3	24.5	26.5	2 11.26	0.20	33.69	15 1 37.77	+ 13.16
	Dorpat 1914	29	59.4	1.5	2.8	12.3	13.3	14.4	15.6	16.7	26.5	27.6	29.7	5 14.53	0.18	33.69	15 4 41.02	12.75
	β Libræ	30	6.2	8.2	9.5	19.2	20.1	21.3	22.5	23.6	33.4	34.5	36.6	10 21.37	0.19	33.69	15 9 47.87	+ 12.97
Tr.	Venus II	31	51.5	53.4	54.7	4.5	5.4	6.7	8.1	9.1	19.1	20.3	22.3	31 6.83	0.15	33.77	2 30 33.21	— 1.57
2	Sun I	32	35.4	37.4	38.6	49.1	50.1	51.3	52.7	53.9	4.2	5.5	7.6	41 51.44	0.13	33.79	4 41 17.78	
	Sun II	33	52.2	54.2	55.7	5.8	7.0	8.4	10.0	11.1	21.0	22.2	24.5	44 8.37	0.13	33.79	4 43 34.71	
	α Canis Minoris	34	33.4	35.3	36.7	46.4	47.4	48.4	49.6	50.7	0.3	1.5	3.6	32 48.48	0.16	33.81	..	+ 14.99
E.	β Virginis	35	0.6	2.6	3.9	13.4	14.5	15.6	16.8	17.8	27.5	28.6	30.7	44 15.64	0.17	33.95	11 43 41.86	13.37
	Moon I	36	26.3	28.3	29.7	39.3	40.4	41.5	42.8	43.8	53.6	54.8	56.9	57 41.58	0.18	33.95	11 57 7.81	
	η Virginis	37	21.0	23.0	24.3	33.7	34.7	36.0	37.2	38.2	47.8	48.9	51.0	13 35.98	+ 0.17	33.95	12 13 2.20	13.14
	Polaris, S. P.	38	..	..	..	50.0	7.0	23.0	33.0	52.0	..	..	..	10 21.00	— 3.90	33.94	1 10 43.16	95.93
	* — 31° 40′	39	26.4	29.0	30.5	41.5	42.7	44.3	45.7	46.9	58.1	59.4	1.9	28 44.22	+ 0.27	33.94	13 28 10.55	13.67
	* — 22° 55′	40	5.9	8.1	9.5	19.7	20.8	22.2	23.4	24.5	35.0	36.3	38.5	30 22.17	+ 0.23	33.94	13 29 48.46	13.43
	Saturn I	41	59.0	0.4	1.7	2.9	5.2	..	5.6	8.2	9.4	10.6	12.0	33 35.50	— 0.05	33.94	13 33 1.51	
	Saturn II	42	21.4	23.4	24.7	34.1	35.3	36.4	37.6	38.6	48.5	49.6	51.6	33 36.47	+ 0.18	33.94	13 33 2.71	
	* — 36° 48′	43	24.3	26.7	28.4	40.2	41.2	42.4	43.8	45.4	56.8	58.4	1.0	54 42.60	0.30	33.93	13 54 8.57	14.16
	O. Arg. S. 13349	†44	58.7	1.0	2.4	12.9	13.9	15.1	16.5	17.9	28.9	30.3	32.5	57 15.45	0.26	33.93	13 56 41.78	13.79
	Lacaille 5883	45	44.5	46.9	48.3	59.6	0.8	2.1	3.6	4.8	16.3	17.6	20.1	11 2.24	0.28	33.93	14 10 28.59	14.15
	* — 27° 30′	46	22.0	24.2	25.7	36.3	37.3	38.7	40.1	41.3	52.1	53.4	55.7	16 38.80	0.25	33.93	14 16 5.12	13.93
	ε Bootis	47	24.9	27.2	28.7	39.4	40.5	41.8	43.2	44.4	55.2	56.5	58.8	39 41.87	0.13	33.93	14 39 8.07	10.57
	O. Arg. S. 13978	48	16.1	18.2	19.6	30.3	31.5	32.8	34.3	35.4	46.3	47.6	49.8	43 32.90	0.26	33.93	14 42 59.23	14.14
	Lacaille 6134	49	7.2	9.3	10.9	21.5	22.6	24.0	25.2	26.4	37.5	38.7	40.1	46 23.94	+ 0.26	—33.93	14 45 50.27	+ 14.16

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 31, 4.6	— 33.44	— 0.008	+ 0.17
June 1, 12.9	33.71	+ 0.008	
2, 7.5	33.81	— 0.008	
15.5	— 33.92	+ 0.008	

4. Fine observation.
44. Faint.

s.
June 1. n. = — 0.12.
June 2–3. By P. S. P., P., and P. S. P., — 0.12.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 2	Dorpat 1914	1	59.8	1.8	3.1	12.5	13.5	14.7	15.9	17.9	26.6	27.9	29.9	5 14.87	+ 0.18	—33.92	15 4 41.13	+ 12.74
E.	β Libræ	2	..	..	..	19.2	20.5	21.5	22.7	23.8	33.4	34.7	36.8	10 26.55	— 4.82	33.92	15 9 47.81	12.97
	b Ophiuchi	3	28.6	30.5	32.1	42.5	43.5	44.9	46.3	47.5	58.0	59.3	1.5	18 44.97	+ 0.24	33.91	17 18 11.30	14.67
	* — 28° 50′	4	10.1	12.6	14.1	24.9	26.0	27.3	28.6	29.8	41.0	42.2	44.5	32 27.37	0.26	33.90	17 31 53.73	15.28
	O. Arg. S. 17105	5	8.4	10.6	11.9	22.5	23.6	25.1	26.5	27.7	38.6	39.9	42.3	35 25.19	+ 0.26	33.90	17 34 51.55	15.18
	Jupiter I	6	58.2	59.7	1.0	2.2	4.6	..	9.9	12.4	13.8	15.3	16.7	41 37.38	— 0.01	33.90	17 41 3.47	..
	Jupiter II	7	24.3	26.4	27.7	37.9	39.1	40.5	41.7	42.9	53.4	54.6	57.0	41 40.50	+ 0.24	33.90	17 41 6.84	..
	* — 23° 48′	8	54.1	56.1	57.6	7.8	8.9	10.1	11.5	12.6	23.1	24.5	26.6	52 10.28	0.24	33.90	17 51 36.62	14.79
	O. Arg. S. 17509	9	41.6	43.7	45.1	5.3	56.5	57.7	59.0	0.1	10.5	11.7	14.0	54 57.75	0.24	33.90	17 54 24.09	14.68
	γ² Sagittarii	10	28.2	30.6	32.1	42.9	44.1	45.5	46.8	48.0	59.2	0.6	2.9	57 45.54	+ 0.27	33.90	17 57 11.91	15.54
Tr.	Polaris	11	..	..	..	..	..	..	45.0	19.0	8.6	4.0	59.0	33 3.00	—22 44.85	34.17	1 9 43.98	95.54
	β Arietis	12	..	..	..	..	..	..	..	..	59.0	0.2	2.3	48 0.50	— 14.02	34.18	1 47 12.30	15.39
	α Arietis	13	53.3	55.4	..	6.8	8.1	9.2	10.6	11.7	..	23.4	25.6	59 9.34	+ 0.14	34.19	1 59 35.29	+ 15.75
	Venus II	14	43.4	45.4	46.8	..	57.6	58.8	59.9	1.0	10.9	12.1	14.2	31 59.01	— 0.08	34.20	2 31 24.73	— 1.54
3	Sun I	15	41.7	43.8	45.1	55.4	56.5	57.8	59.2	0.2	10.6	12.0	14.1	45 57.85	+ 0.13	34.23	4 45 23.75	..
	Sun II	16	58.6	0.6	2.3	12.4	13.5	14.8	16.0	17.2	27.5	29.0	31.1	48 14.82	0.13	34.23	4 47 40.72	..
	α Canis Minoris	17	33.9	35.8	37.3	46.7	47.6	48.8	50.0	51.0	0.8	2.0	4.0	32 48.90	+ 0.16	34.29	7 32 14.77	+ 13.00
	β Geminorum	18	..	..	..	35.4	36.5	37.8	39.4	40.7	51.5	52.7	55.1	37 43.64	— 5.50	34.29	7 37 3.85	13.60
	χ Virginis	19	38.3	40.3	41.5	51.1	52.1	53.3	54.6	55.6	5.3	6.5	8.6	32 53.38	+ 0.20	34.38	12 32 19.20	13.08
	Moon I	20	49.8	51.9	53.2	2.8	4.0	5.0	6.4	7.4	17.4	18.5	20.7	44 5.19	0.19	34.38	12 43 31.00	..
	Lacaille 5346	21	42.2	44.6	46.2	58.5	59.6	1.0	2.5	4.0	16.3	17.7	20.3	52 1.17	0.33	34.38	12 51 27.12	13.39
	48 Virginis	22	18.8	20.8	22.2	31.5	32.5	33.7	34.9	36.1	45.8	46.8	48.9	57 33.82	0.19	34.38	12 56 59.63	12.98
	θ Virginis	23	19.4	21.5	..	32.1	33.2	34.4	35.6	36.7	..	47.5	49.5	3 34.43	+ 0.20	34.39	13 3 0.24	12.97
	Polaris, S. P.	24	..	..	..	52.0	12.0	22.0	35.0	54.0	..	..	..	10 23.00	— 4.30	34.39	1 9 44.31	95.14
	Lacaille 5502	25	33.3	35.7	37.5	49.5	50.8	52.3	53.9	55.2	7.5	8.9	11.5	14 52.37	+ 0.32	34.39	13 14 18.30	13.70
	Lacaille 5569	26	32.0	34.4	36.2	48.3	49.5	51.2	52.6	53.9	6.3	7.7	10.4	23 51.14	0.33	34.39	13 23 17.08	13.83
	ζ Virginis	27	10.9	12.7	14.1	23.6	24.6	25.7	26.9	28.0	37.6	38.8	40.7	28 25.78	+ 0.18	34.39	13 27 51.57	12.69
	Saturn I	28	51.0	52.3	53.5	54.7	57.1	..	57.5	0.0	1.3	2.6	3.9	33 27.39	— 0.03	34.39	13 32 52.97	..
	Saturn II	29	13.3	15.3	16.6	26.1	27.1	28.3	29.5	30.6	40.2	41.4	43.4	33 28.35	+ 0.20	34.39	13 32 54.16	..
	* — 37° 59′	30	32.4	34.6	36.3	48.2	49.5	51.0	52.4	53.9	6.5	7.8	10.6	48 51.20	+ 0.32	34.40	13 48 17.12	14.15
	* — 33° 2′	31	..	..	..	44.7	46.2	48.6	6.9	9.4	10.8	12.6	14.0	59 1.65	— 30.73	34.40	13 57 56.52	14.02
	* — 26° 33′	32	41.6	43.7	45.2	..	..	..	..	..	11.3	12.8	15.1	1 58.28	+ 0.22	34.40	14 1 24.10	13.79
	* — 26° 33′	33	..	..	..	59.6	0.8	2.1	3.5	4.6	..	..	..	2 2.12	0.31	34.40	14 1 28.03	13.79
	* — 32° 53′	34	10.5	11.9	13.5	15.0	17.8	..	29.2	32.1	33.5	35.2	36.6	5 53.53	0.02	34.40	14 5 19.15	14.10
	* — 32° 52′	35	39.3	41.5	42.9	..	..	..	..	..	11.0	12.4	14.8	5 56.98	0.24	34.40	14 5 22.82	14.10
	* — 32° 52′	36	..	..	..	1.0	2.2	3.7	5.0	6.3	..	..	..	6 3.64	0.35	34.40	14 5 29.59	14.10
	* — 4° 31′	37	25.2	27.1	28.4	37.9	38.8	40.0	41.2	42.2	51.9	53.1	55.2	10 40.09	0.19	34.40	14 10 5.88	12.81
	Weisse 171	38	10.2	12.2	13.5	..	..	..	..	..	37.2	38.4	40.4	11 25.32	0.15	34.40	14 10 51.07	12.81
	Weisse 174	39	..	..	..	29.1	30.1	31.2	32.4	33.6	..	..	..	11 31.28	0.14	34.40	14 10 57.02	12.81
	* — 27° 30′	40	22.3	24.5	26.0	36.7	37.8	39.3	40.6	41.7	52.9	53.9	56.5	16 39.29	0.27	34.41	14 16 5.15	13.92
	* — 27° 30′	41	43.9	45.9	47.4	58.2	59.2	0.7	1.9	3.2	14.2	15.4	17.6	18 0.71	0.27	34.41	14 17 26.57	13.93
	* + 10° 28′	42	16.9	18.8	20.2	29.6	30.7	32.0	33.2	34.4	44.1	45.4	47.3	56 32.05	0.16	34.42	14 55 57.79	11.74
	O. Arg. S. 14246	43	1.5	3.6	5.0	15.2	16.2	17.6	18.8	19.9	30.3	31.6	33.7	59 17.58	0.24	34.42	14 58 43.40	13.82
	β Libræ	44	56.9	58.9	0.2	9.9	10.9	12.0	13.2	14.3	24.1	25.3	27.3	10 12.09	0.20	34.42	15 9 37.87	12.97
	* — 35° 58′	45	30.1	32.5	34.2	45.9	47.1	48.5	50.0	51.1	3.2	4.7	7.2	31 48.59	0.31	34.43	15 31 14.47	15.22
	B. A. C. 5171	46	11.8	14.4	15.7	27.5	28.9	30.2	31.9	33.2	45.2	46.7	49.2	34 30.43	0.32	34.43	15 33 56.32	15.25
	O. Arg. S. 14861	47	16.5	18.8	20.1	30.5	31.6	32.8	34.0	35.5	..	..	..	39 27.73	5.78	34.43	15 38 59.08	14.34
	B. A. C. 5211	48	10.2	12.4	13.7	24.4	25.4	26.6	28.0	29.2	39.9	41.1	43.4	40 26.75	0.26	34.43	15 39 52.58	14.35
	ε Serpentis	49	27.6	29.5	30.8	40.4	41.4	42.5	43.7	44.8	54.5	55.7	57.7	44 42.60	+ 0.17	34.43	15 44 8.34	11.95
	* — 4° 7′	50	..	..	..	..	..	..	27.3	29.7	30.9	32.1	33.4	51 30.68	— 33.56	—34.45	16 50 22.67	+ 11.85

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 3, 11.1	— 34.35	— 0.018	+ 0.18

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduced
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 28	* — 24° 32′ . .	1	57.5	59.8	1.1	10.6	12.7	14.0	15.3	16.4	27.1	28.2	30.5	49 13.92	+ 0.20	—56.44	15 48 17.68	+
Tr.	O. Arg. S. 15134 .	2	1.5	3.7	5.1	15.8	16.7	18.1	19.5	20.6	31.4	32.6	35.0	55 18.18	+ 0.21	56.44	15 54 21.95	
	Dorpat 1999, (1st *)	3	19.8	21.3	22.5	23.7	26.0	. .	27.2	29.5	30.9	32.2	33.5	57 56.66	— 0.07	56.45	15 57 0.14	
	Dorpat 1999, (2d *)	4	. .	43.9	45.1	54.7	55.8	57.0	58.2	59.3	8.9	10.1	. .	57 57.00	+ 0.17	56.45	15 57 0.72	
	O. Arg. S. 15295 .	5	24.0	25.8	27.2	. .	. .	. .	. .	. .	52.1	53.3	55.5	2 39.65	0.14	56.45	16 1 43.34	
	O. Arg. S. 15300 .	6	. .	. .	. .	39.0	40.0	41.2	42.4	43.6	. .	. .	. .	2 41.14	+ 0.23	56.45	16 1 44.92	
	* — 17° 50′ . .	7	. .	. .	. .	. .	. .	. .	46.7	49.2	50.5	51.9	53.2	5 50.30	— 35.16	56.46	16 4 18.68	
	O. Arg. S. 15398 .	8	24.4	26.5	27.9	37.7	38.8	40.0	41.3	42.4	52.6	53.8	56.0	6 40.13	+ 0.18	56.46	16 5 43.85	
	δ Ophiuchi . . .	9	1.0	3.0	4.3	13.6	14.8	16.0	17.1	18.2	27.7	28.9	31.0	8 15.96	0.15	56.46	16 7 19.65	
	O. Arg. S. 15595 .	10	6.0	8.1	9.3	19.7	20.7	22.2	23.4	24.5	35.0	36.2	38.5	17 22.15	0.20	56.47	16 16 25.88	
	* — 22° 30′ . .	11	17.1	19.1	20.5	30.7	31.9	33.2	34.5	35.7	45.8	47.4	49.6	24 33.23	0.20	56.47	16 23 36.96	
	O. Arg. S. 15726 .	12	. .	. .	. .	42.6	43.7	45.0	46.4	47.4	. .	. .	. .	26 45.02	+ 0.25	56.47	16 25 48.80	
	Weisse 539 . . .	13	55.8	57.9	59.1	. .	9.7	10.9	12.2	13.2	23.0	24.2	26.2	30 11.22	— 0.06	56.48	16 29 14.68	
	O. Arg. S. 15868 .	14	45.0	47.0	48.5	58.5	59.7	1.0	2.3	3.5	13.7	15.1	17.1	36 1.05	+ 0.19	56.49	16 35 4.75	
	Weisse 758 . . .	15	55.7	57.6	59.0	. .	. .	. .	.	. .	22.5	23.7	25.9	41 10.73	0.11	56.49	16 40 14.35	
	Weisse 760 . . .	16	. .	. .	. .	10.3	11.2	12.6	13.7	14.7	. .	. .	. .	41 12.50	0.20	56.49	16 40 16.21	
	Iris	17	25.7	27.8	29.2	39.3	40.4	41.7	43.0	44.3	54.6	55.9	58.1	45 41.82	0.20	56.50	16 44 45.52	
	* — 22° 7′ . . .	18	33.6	35.6	36.8	47.2	48.4	49.6	50.8	51.9	2.5	3.8	6.1	46 49.66	0.20	56.50	16 45 53.36	
	Weisse 958 . . .	19	56.4	58.1	59.4	9.0	10.1	11.3	12.4	13.5	23.1	24.4	26.4	52 11.28	0.15	56.50	16 51 14.93	
	Lalande 31055 . .	20	46.4	48.4	49.6	59.2	0.2	1.4	2.6	3.7	13.3	14.5	16.5	59 1.44	0.15	56.51	16 58 5.08	
	Weisse 46 . . .	21	19.4	21.2	22.5	32.0	33.0	34.1	35.4	36.4	46 2	47.4	49.4	5 34.26	+ 0.15	56.52	17 4 37.89	
	A Ophiuchi, (1st *) .	22	23.0	24.6	25.9	27.3	30.0	. .	36.7	39.3	40.9	42.3	43.7	8 3.37	— 0.04	56.52	17 7 6.81	
	A Ophiuchi, (2d *) .	23	46.6	48.7	50.2	0.6	1.8	3.2	4.6	5.8	16.5	17.7	20.0	8 3.25	+ 0.21	56.52	17 7 6.94	
	B A. C. 5813 . .	24	. .	. .	. .	53.3	54.3	55.6	56.9	58.2	. .	. .	. .	8 55.66	+ 0.26	56.52	17 7 59.40	
	Weisse 186 . . .	25	. .	. .	. .	46.9	47.9	49.1	50.3	51.4	1.0	2.2	4.2	12 54.13	— 4.82	56.52	17 11 52.79	
	Weisse 249 . . .	26	1.5	3.5	4.8	14.2	15.1	16.5	17.6	18.7	28.4	29.7	31.6	16 16.51	+ 0.15	56.53	17 15 20.13	
	b Ophiuchi . . .	27	51.5	53.7	55.1	5.4	6.5	7.8	9.2	10.3	20.8	22.1	24.4	19 7.89	+ 0.20	56.53	17 18 11.56	+
	Jupiter I . . .	28	15.4	16.9	18.3	19.6	22.2	. .	27.3	29.7	31.2	32.6	34.1	27 54.73	— 0.05	56.54	17 26 58.14	
	Jupiter II . . .	29	41.6	43.6	45.3	55.4	56.5	57.9	59.1	0.1	10.6	11.9	14.2	27 57.84	+ 0.20	56.54	17 27 1.50	
	δ Ursæ Minoris . .	30	50.0	23.0	43.0	23.0	42.0	2.0	21.0	39.0	22.0	43.0	16.0	17 2.18	0.51	56.59	18 16 6.10	—
	1 Aquilæ	31	36.4	38.4	39.6	49.3	50.3	51.5	52.7	53.8	3.5	4.7	6.8	28 51.54	0.16	56.60	18 27 55.10	+
	α Lyræ	32	2.8	5.2	6.7	18.9	20.2	21.7	23.3	24.5	37.0	38.4	40.9	33 21.78	+ 0.09	56.61	18 32 25.26	
	Polaris	33	. .	. .	. .	33.0	13.0	3.0	51.0	33.0	. .	. .	. .	11 2.60	— 0.64	57.01	1 10 4.95	
	θ Ceti	34	. .	. .	. .	. .	. .	. .	45.5	47.9	49.3	50.5	51.8	18 49.00	— 33.89	57.02	1 17 18.09	
	η Piscium	35	59.1	1.1	2.5	12.2	13.2	14.5	15.7	16.8	26.8	28.0	30.1	25 14.54	+ 0.12	57.02	1 24 17.64	
	o Piscium	36	59.5	1.5	2.8	12.4	13.5	14.6	15.8	16.9	26.6	27.9	29.8	39 14.66	0.13	57.03	1 38 17.76	
	β Arietis	37	54.0	56.0	57.5	7.7	8.7	10.0	11.2	12.4	22.6	23.9	26.1	48 10.01	0.11	57.05	1 47 13.07	+
Y.	Venus II . . .	38	58.4	0.3	1.7	11.5	12.7	13.8	14.9	16.1	26.1	27.3	29.5	29 13.85	0.12	57.02	3 28 16.95	—
	η Tauri	39	9.9	12.0	13.4	23.7	24.9	26.1	27.5	28.6	39.0	40.4	42.4	40 26.17	0.10	57.03	3 39 29.24	+
	α Tauri	40	53.1	55.1	56.4	6.3	7.7	8.6	9.8	11.0	20.9	22.2	24.4	29 8.65	0.11	57.07	4 28 11.69	
	α Orionis	41	34.5	36.5	37.7	47.2	48.3	49.5	50.7	51.7	1.4	2.5	4.6	48 49.51	0.13	57.14	5 47 52.50	
29	Sun I	42	52.6	54.6	56.0	6.4	7.5	8.8	10.2	11.3	21.7	22.8	25.1	34 8.82	0.11	57.19	6 33 11.74	
	Sun II	43	10.2	12.3	13.7	24.0	25.2	26.4	27.7	28.8	39.3	40.5	42.9	36 26.45	0.11	57.19	6 35 29.37	
	α Hydræ	44	40.2	42.3	43.5	53.1	54.2	55.4	56.6	57.6	7.4	8.6	10.6	21 55.45	0.16	57.33	9 20 58.28	
	γ Leonis	45	14.0	16.2	17.5	27.6	28.7	30.0	31.2	32.3	42.7	43.9	46.1	13 30.02	0.11	57.38	10 12 32.75	
	Moon I	46	30.5	32.4	33.7	43.4	44.4	45.6	46.8	47.9	57.7	58.9	1.0	39 45.66	0.14	57.46	11 38 48.34	
	β Virginis	47	23.9	26.0	27.1	36.6	37.7	38.9	40.0	41.1	50.8	51.9	54.0	44 38.91	0.14	57.46	11 43 41.59	
	β Corvi	48	1.5	3.7	4.9	15.3	16.4	17.7	18.9	20.0	30.4	31.8	34.0	28 17.69	0.20	57.51	12 27 20.38	
	Polaris, S. P. . .	49	. .	. .	. .	. .	. .	. .	25.0	18.5	10.0	2.0	38.0	48 18.70	22 45.26	57.52	1 10 6.44	+
	ε Ursæ Minoris . .	50	5.5	20.5	29.3	35.7	46.5	55.5	5.0	13.0	24.0	33.0	47.7	0 55.97	+ 0.23	—57.75	16 59 58.45	—

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	ε.
h.	s.	s.	s.
June 29, 11.1	— 57.43	— 0.054	+ 0.14
5.8	— 58.62	— 0.060	

June 29–30, n. $= -0^{s}.11$.

June 29, 12h. Image west 0.05. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 7	* — 30° 6′	1	..	..	..	3.4	4.6	5.8	7.2	8.4	..	..	..	27 5.88	— 0.16	—36.62	14 26 29.10	+ 14.16
Tr.	O. Arg. 8. 13747	2	59.9	2.2	3.6	14.4	15.6	17.0	18.3	19.5	30.0	31.6	33.8	29 16.90	— 0.11	36.62	14 28 40.17	14.04
	* — 32° 9′	3	49.0	50.6	52.0	53.5	56.5	..	7.4	10.1	11.6	12.8	14.5	34 31.80	+ 0.16	36.63	14 33 55.33	14.36
	Lacaille 6654	4	29.1	31.4	32.7	44.2	45.5	46.8	48.2	49.5	0.7	2.2	4.5	34 46.80	— 0.11	36.63	14 34 10.06	14.36
	54 Hydræ, (1st *)	5	11.6	13.1	14.5	15.9	18.6	..	24.6	27.3	28.5	29.9	31.3	38 51.33	+ 0.13	36.63	14 38 14.83	13.90
	54 Hydræ, (2d *)	6	35.7	37.8	39.2	49.8	51.1	52.4	53.7	54.9	5.1	6.5	8.7	38 52.26	— 0.12	36.63	14 38 15.51	13.90
	8 Libræ	7	15.6	16.9	18.3	19.6	22.1	..	24.4	26.8	28.1	29.3	30.7	43 53.18	+ 0.10	36.63	14 43 16.65	13.39
	α Libræ	8	49.2	50.5	52.6	2.7	3.7	4.9	6.2	7.2	17.0	18.4	20.4	44 4.80	— 0.14	36.63	14 43 28.03	13.35
	* — 27° 52′	9	10.1	12.4	13.7	24.5	25.8	27.2	28.5	29.6	40.3	41.8	44.0	46 27.08	0.11	36.63	14 45 50.34	14.17
	Lacaille 6134	10	..	..	..	59.1	0.3	1.6	2.9	4.1	14.7	16.3	18.3	47 7.16	— 5.75	36.63	14 46 24.78	14.17
	Weisse (2) 1130, 1st *	11	10.5	12.2	..	15.4	18.7	..	..	..	..	..	..	52 14.20	+ 43.97	36.63	14 52 21.54	8.99
	Weisse (2) 1130, 2d *	12	..	..	..	56.3	57.8	59.4	0.9	2.3	..	..	..	52 59.34	— 0.43	36.63	14 52 22.28	8.99
	Weisse (2) 1139	13	..	..	..	..	..	..	53.0	55.8	57.5	59.1	1.0	53 57.28	44.18	36.63	14 52 36.47	8.99
	Weisse (2) 1146	14	..	..	..	31.6	32.9	34.4	36.1	37.4	..	..	..	53 34.48	0.37	36.63	14 52 57.48	9.00
	* + 10° 28′	15	50.4	52.2	53.5	3.4	4.5	5.5	6.8	7.9	17.4	18.7	20.8	58 5.55	0.21	36.63	14 57 28.71	11.73
	γ Libræ	16	23.2	25.3	26.7	36.4	37.6	38.8	40.0	41.1	50.8	52.1	54.0	28 38.73	0.14	36.64	15 28 1.95	13.40
	O. Arg. 8. 14736	17	1.3	3.6	4.8	15.2	16.4	17.8	19.1	20.2	30.5	31.9	34.1	32 17.72	0.12	36.64	15 31 40.96	14.12
	42 Libræ	18	42.2	44.4	45.7	56.2	57.4	58.7	0.0	1.1	11.3	12.7	14.9	32 58.60	0.12	36.64	15 32 21.84	14.12
	α Serpentis	19	1.8	3.9	4.9	14.7	15.8	17.0	18.2	19.2	28.7	30.0	31.9	38 16.92	0.19	36.64	15 37 40.09	11.81
	β^1 Scorpii	20	59.7	1.9	3.3	13.4	14.5	15.7	16.9	18.1	28.1	29.5	31.6	58 15.70	0.13	36.65	15 57 38.92	13.85
	Moon I	21	33.5	35.7	37.1	47.6	48.8	50.0	51.3	52.4	2.5	4.0	6.1	4 49.91	0.13	36.65	16 4 13.13	..
	σ Scorpii	22	23.1	25.2	26.6	37.3	38.3	..	41.0	42.2	52.6	53.9	56.2	13 39.64	0.12	36.65	16 13 2.87	14.48
	ψ Ophiuchi	23	36.7	38.9	40.1	50.3	51.5	52.6	53.9	55.0	5.0	6.4	8.6	16 52.64	0.13	36.65	16 16 15.86	13.98
	ω Ophiuchi	24	32.4	34.6	35.8	46.2	47.4	48.5	49.9	50.9	1.1	2.5	4.5	25 48.53	0.13	36.66	16 25 11.74	14.14
	Weisse 619	25	14.4	16.5	17.6	27.4	28.5	29.7	30.9	31.9	41.4	42.8	44.7	33 29.63	0.19	36.66	16 32 52.78	12.69
	κ Ophiuchi	26	41.3	43.4	44.7	54.4	55.5	56.8	..	58.8	8.4	9.7	11.7	51 56.47	0.07	36.66	16 51 19.74	+ 11.16
	ε Ursæ Minoris	27	9.2	19.0	28.0	37.1	55.0	..	20.5	39.0	47.0	57.0	6.0	0 37.78	0.79	36.66	17 0 0.33	— 37.18
	α Herculis	†28	..	..	23.0	38.0	53.4	9.3	24.7	40.0	55.6	..	..	9 9.14	0.16	36.67		+ 10.70
	Jupiter I	29	20.6	22.0	23.5	..	27.3	..	32.5	34.9	36.2	37.7	39.3	39 3.78	3.78	36.67	17 38 23.33	..
	Jupiter II	30	47.2	49.3	50.7	1.1	2.3	3.6	4.8	6.0	16.2	17.7	19.6	39 3.50	0.12	36.67	17 38 26.71	..
	μ^1 Sagittarii	31	5.5	7.7	9.0	19.4	20.5	21.7	23.0	24.2	34.2	35.7	37.9	6 21.71	0.12	36.68	18 5 44.91	14.39
	β Ceti	32	10.8	12.9	14.2	24.4	25.5	26.8	28.1	29.1	39.0	40.2	42.3	37 26.66	— 0.10	36.79		13.99
	Polaris	33	58.0	53.0	47.0	45.0	15.0	30.0	53.0	38.0	..	..	..	53 4.88	+17 17.24	36.79		+ 91.16
Y.	Venus II	34	53.1	55.2	56.4	6.3	7.3	8.5	9.8	10.9	20.4	..	..	38 5.32	2.94	36.82	2 37 31.44	— 1.42
8	Sun I	35	19.9	22.0	23.3	33.7	34.8	36.1	37.2	38.4	49.1	50.3	52.4	6 36.11	0.10	36.73	5 5 59.48	
	Sun II	36	37.3	39.4	40.7	51.0	52.1	53.4	54.7	55.9	6.4	7.6	9.8	8 53.48	0.10	36.73	5 8 16.85	
	α Canis Majoris	37	32.9	35.0	36.3	46.3	47.4	48.6	49.9	51.0	1.0	2.1	4.2	39 48.61	+ 0.18	36.73		+ 12.95
	Weisse 10	38	..	..	..	20.9	22.1	24.2	39.3	41.8	43.0	44.2	45.6	3 35.14	— 25.96	36.77	15 2 32.41	12.75
	Dorpat 1914	39	2.7	4.7	5.8	15.3	16.3	17.5	18.7	19.8	29.5	30.6	32.7	5 17.60	+ 0.15	36.77	15 4 40.98	12.75
	β Libræ	40	9.4	11.3	12.6	22.2	23.3	24.4	25.6	26.7	36.5	37.6	39.7	10 24.48	+ 0.16	36.77	15 9 47.87	12.96
	Lacaille 6344	41	..	..	..	56.0	57.4	59.7	18.0	20.9	22.4	23.9	25.5	15 12.98	— 31.01	36.77	15 14 5.20	14.84
	Lacaille 6372	42	49.1	51.4	53.0	4.8	5.9	7.4	8.8	10.0	22.2	23.6	26.0	18 7.47	+ 0.27	36.77	15 17 30.97	15.08
	Lacaille 6376	43	..	..	..	..	..	..	57.8	0.9	2.4	3.9	5.7	20 2.14	— 41.47	36.77	15 18 43.90	15.12
	Weisse 444	44	23.9	26.0	27.2	36.8	37.8	39.1	40.2	41.3	51.0	52.1	54.4	25 39.07	+ 0.16	36.77	15 25 2.46	13.02
	Lacaille 6471	45	31.3	33.9	35.5	47.8	49.0	50.5	52.0	53.4	6.0	7.7	10.3	32 50.66	+ 0.29	36.77	15 32 14.18	15.58
	Lacaille 6517, (1st *)	46	20.8	22.4	24.0	25.5	28.3	.	41.6	44.7	46.0	47.5	49.3	39 5.01	— 0.02	36.77	15 38 28.22	15.19
	Lacaille 6517, (2d *)	47	48.0	50.5	52.0	3.4	4.8	6.2	7.7	8.9	20.8	22.4	24.7	39 6.31	+ 0.26	36.77	15 38 29.80	15.19
	b Scorpii	48	15.4	17.7	19.0	29.5	30.7	31.9	33.3	34.4	45.0	46.4	48.6	43 32.00	0.22	36.77	15 42 56.45	14.33
	A Scorpii, (1st *)	49	54.3	56.5	57.9	..	..	..	..	..	23.7	25.1	27.3	46 10.80	0.18	36.77	15 45 34.21	14.31
	A Scorpii, (2d *)	50	..	..	..	8.3	9.5	10.7	12.0	13.2	..	..	..	46 10.74	+ 0.27	—36.77	15 45 34.24	+ 14.31

28. Observed with eye and ear.

s.
June 7, 7h. to 14h. n. = — 0.08.
14h. to 19h. 0.16.
0h. to 3h. — 0.30.

r.
June 7, 3h. 30m. Image west 0.42. Clamp west.
Image east 0.12. Clamp east.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	s.
h.	s.	s.	s.
June 7, 7.5	— 36.43	— 0.016	— 0.174
16.7	— 36.66	— 0.016	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 8	B. A. C. 5314 . .	1	35.0	37.1	38.5	49.1	50.3	51.6	52.8	54.0	4.7	6.0	8.2	55 51.57	+ 0.22	—36.77	15 55 15.02	+ 14.41
Y.	Weisse 1080 . .	2	1.6	3.8	5.0	14.5	15.5	16.7	17.9	19.0	28.6	29.8	31.8	58 16.75	0.14	36.77	15 57 40.12	12.19
	O. Arg. S. 15342 .	3	54.1	56.1	57.4	7.3	8.4	9.6	10.8	12.0	22.2	23.3	25.5	4 9.70	0.19	36.77	16 3 33.12	13.76
	O. Arg. S. 15398 .	4	4.7	6.7	8.0	17.9	18.9	20.1	21.3	22.5	32.8	33.9	36.1	6 20.26	+ 0.19	36.77	16 5 43.68	13.76
	O. Arg. S. 15595 .	5	. .	. .	. .	59.8	0.9	2.1	3.5	4.7	14.9	16.3	18.4	17 7.58	— 5.16	36.77	16 16 25.65	14.21
	α Scorpii	6	30.7	33.9	35.4	45.8	46.9	48.4	49.7	50.9	21.5	22.8	25.0	21 48.27	+ 0.22	36.77	16 21 11.72	14.59
	O. Arg. S. 15698 .	7	57.4	59.4	0.7	11.0	12.1	13.4	14.7	15.9	26.2	27.5	29.7	24 13.45	0.20	36.77	16 23 36.88	14.26
	O. Arg. S. 15726 .	8	9.0	11.3	12.7	. .	. .	. .	. .	. .	38.1	39.3	41.6	26 25.33	0.16	36.77	16 25 48.72	14.27
	Weisse 562 . . .	9	44.0	46.1	47.2	56.8	57.8	59.0	0.2	1.3	10.5	12.1	14.1	30 59.04	0.14	36.77	16 30 22.41	12.20
	Weisse 619 . . .	10	14.4	16.3	17.7	27.1	28.2	29.4	30.6	31.6	40.2	42.4	44.5	33 29.31	0.15	36.77	16 32 52.69	12.75
	η Herculis . . .	11	36.2	38.9	40.7	52.7	53.9	55.7	57.1	58.4	10.9	12.4	14.9	38 55.62	0.08	36.77	16 38 18.93	7.49
	Weisse 854 . . .	12	27.6	29.6	30.8	40.3	41.3	42.5	43.6	44.7	54.4	55.7	57.7	45 42.56	0.15	36.77	16 45 5.94	12.73
	23 Ophiuchi . . .	13	47.6	49.6	50.9	0.4	1.4	2.6	3.8	4.8	14.7	15.8	17.8	48 2.68	+ 0.15	36.77	16 47 26.06	12.76
	Weisse 913 . . .	14	. .	. .	. .	13.2	14.3	15.4	16.6	17.6	27.4	28.5	30.6	49 20.45	— 4.83	36.77	16 48 38.85	12.76
	κ Ophiuchi . . .	15	41.4	43.3	44.6	54.2	55.2	56.5	57.6	58.7	8.4	9.6	11.8	51 56.48	+ 0.12	36.77	16 51 19.83	11.15
	29 Ophiuchi . . .	16	22.0	24.0	25.3	35.4	36.3	37.6	38.8	40.0	50.1	51.3	53.5	54 37.66	0.19	36.77	16 54 1.08	+ 13.98
	Moon I	17	56.9	59.0	0.3	10.6	11.7	13.0	14.2	15.4	26.1	27.2	29.4	0 13.07	0.19	36.78	16 59 36.48	. .
	Moon II	18	11.8	13.8	15.1	25.4	26.6	27.9	29.2	30.3	40.8	42.1	44.3	2 27.94	0.19	36.78	17 1 51.35	. .
	Schwerd 1014 . .	19	34.2	44.3	50.5	36.7	42.0	48.1	53.5	58.9	46.4	52.3	1.9	7 48.07	0.06	36.78	17 7 11.35	— 20.20
	Weisse 186 . . .	20	14.4	16.2	17.4	27.0	28.0	29.1	30.3	31.4	41.1	42.2	44.3	12 29.22	+ 0.15	36.78	17 11 52.59	+ 12.60
	θ Ophiuchi . . .	21	. .	. .	. .	21.0	22.1	23.3	24.6	25.8	36.5	37.9	40.0	14 28.90	— 5.24	36.78	17 13 46.88	14.66
	b Ophiuchi . . .	22	31.5	33.7	35.0	45.5	46.6	47.8	49.1	50.3	0.9	2.1	4.3	18 47.89	+ 0.21	36.78	17 18 11.32	14.59
	Jupiter I . . .	23	48.5	50.0	51.2	52.5	55.1	. .	0.2	2.8	4.2	5.5	7.1	38 27.71	— 0.04	36.78	17 37 50.89	. .
	Jupiter II . . .	24	14.6	16.7	18.1	28.4	29.5	30.8	32.0	33.2	43.7	45.0	47.3	38 30.85	+ 0.21	36.78	17 37 54.28	. .
	O. Arg. S. 17270 .	25	20.2	22.3	23.7	33.9	35.0	36.3	37.6	38.7	49.2	50.5	52.6	43 36.36	0.21	36.78	17 42 59.79	14.55
	O. Arg. S. 17320 .	26	38.0	40.3	41.5	52.5	53.6	55.0	56.3	57.5	8.5	9.7	12.1	45 55.00	0.23	36.78	17 45 18.45	15.21
	4 Sagittarii . . .	27	57.0	59.0	0.5	10.8	11.9	13.2	14.4	15.7	26.3	27.5	29.9	52 13.29	0.21	36.78	17 51 36.72	14.68
	* — 21° 30′ . .	28	57.2	59.4	0.7	10.8	11.9	13.2	14.5	15.6	26.0	27.3	29.5	55 13.28	0.20	36.78	17 54 36.77	14.43
	* — 21° 27′ . .	29	28.5	30.7	32.0	42.4	43.4	44.6	45.9	47.1	57.5	58.7	0.7	58 44.68	0.20	36.78	17 58 8.10	14.43
	Lalande 33164 . .	30	29.6	31.6	33.1	43.3	44.4	45.6	46.9	48.0	58.5	59.6	1.7	59 45.66	+ 0.20	36.78	17 59 9.08	14.43
	Lalande 33210 . .	31	. .	. .	. .	10.4	11.6	12.9	14.2	15.3	25.6	26.9	29.1	1 18.25	— 5.13	36.78	18 0 36.34	14.44
	μ Sagittarii . .	32	5.5	7.6	8.9	19.0	20.2	21.4	22.7	23.8	34.3	35.5	37.6	6 21.50	+ 0.20	36.78	18 6 44.92	+ 14.39
	δ Ursæ Minoris .	33	29.5	2.5	25.0	3.0	20.5	40.2	1.0	18.5	0.0	20.5	55.0	16 41.43	0.17	36.78		— 108.38
	1 Aquilæ	34	16.4	18.5	19.5	29.3	30.2	31.5	32.6	33.8	43.5	44.6	46.5	28 31.49	+ 0.16	36.78	18 27 54.87	+ 13.09
	51 Cephei, S. P. .	35	. .	. .	. .	25.0	3.0	38.0	13.5	52.5	. .	. .	. .	36 38.40	— 1.17	36.78	6 36 0.45	162.08
Tr.	Polaris	36	. .	. .	. .	26.0	15.0	39.0	53.0	33.0	24.0	13.0	8.0	28 3.88	—17 36.79	37.14	1 9 49.95	90.26
	β Arietis	37	33.6	35.6	37.3	47.1	48.2	49.5	50.8	51.9	2.2	3.5	5.5	47 49.56	+ 0.09	37.13	1 47 12.52	15.23
	α Arietis	38	56.2	58.3	59.8	10.1	11.1	12.4	13.6	14.8	25.3	26.6	28.7	0 12.45	0.09	37.13	1 59 35.41	+ 15.58
	Venus II . . .	39	26.8	28.8	30.2	39.9	40.9	42.2	43.3	44.5	54.5	55.7	57.7	39 42.23	0.11	37.13	2 39 5.21	— 1.39
	α Ceti	40	36.3	38.3	39.5	49.0	50.0	51.2	52.4	53.5	3.2	4.4	6.3	55 51.28	0.13	37.13	2 55 14.28	+ 14.87
	Mercury II . . .	41	7.7	9.9	11.2	21.0	22.2	23.5	24.7	25.9	35.7	37.2	39.2	42 23.47	0.10	37.12	3 41 46.45	— 0.23
	α Tauri	42	32.8	34.7	36.1	45.8	47.0	48.2	. .	50.5	0.5	1.7	3.9	28 48.12	+ 0.22	37.11	4 28 11.23	+ 16.45
9	Sun I	43	. .	. .	. .	42.2	43.4	44.6	45.9	47.0	57 6	58.7	0.9	10 50.04	— 5.31	37.11	5 10 7.62	. .
	Sun II	44	45.8	47.9	49.4	59.6	0.7	2.0	3.3	4.6	15.1	16.4	18.4	13 2.11	+ 0.09	37.11	5 12 25.09	. .
	α Orionis	45	14.4	16.3	17.6	27.1	28.2	29.4	30.6	31.6	41.4	42.5	44.5	48 29.42	0.12	37.11	5 47 52.43	15.66
	α Canis Majoris .	46	33.4	35.5	36.7	46.6	47.8	49.1	50.2	51.3	1.4	2.7	4.7	39 49.04	0.19	37.10	6 39 12.13	12.95
	α^2 Geminorum . .	47	19.1	21.4	23.0	34.0	35.2	36.8	38.1	39.4	50.7	52.1	54.6	26 36.76	0.07	37.09	7 25 59.74	18.42
	α Canis Minoris . .	48	. .	38.7	40.0	49.5	50.5	51.7	52.9	54.0	3.5	4.7	. .	32 51.72	0.14	37.09	7 32 14.77	15.01
	β Geminorum . . .	49	23.9	26.2	27.7	38.4	39.5	40.8	42.3	43.5	54.4	55.8	58.1	37 40.96	+ 0.08	37.09	7 37 3.95	17.63
E.	Polaris, S. P. . .	50	. .	. .	. .	58.0	17.0	30.0	42.5	58.0	. .	. .	. .	10 29.10	— 1.46	—37.20	1 9 50.44	+ 89.82

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 8, 15.7	— 36.77	— 0.004	+ 0.14
5.1	— 37.11	+ 0.007	

June 8, n. $= -0.13$.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 9	Lacaille 5573	1	26.8	28.9	30.4	41.0	42.1	43.3	44.9	46.1	. .	. .	. .	24 37.94	+ 5.85	—37.21	13 24 6.58	+ 13.41
E.	ζ Virginis	2	13.7	15.6	16.9	26.4	27.2	28.4	29.6	30.6	40.4	41.5	43.5	28 28.53	0.14	37.21	13 27 51.46	12.73
	* — 22° 55′	3	9.1	11.2	12.6	22.9	23.9	25.2	26.5	27.7	38.2	39.4	41.6	30 25.30	+ 0.22	37.21	13 29 48.31	13.48
	Saturn I.	4	9.4	10.9	12.2	13.4	15.8	. .	16.2	18.6	19.9	21.2	22.5	32 46.01	— 0.07	37.22	13 32 8.72	. .
	Saturn II	5	32.0	33.9	35.2	44.7	45.8	47.0	48.2	49.3	58.9	0.1	2.1	32 47.02	+ 0.16	37.22	13 32 9.96	. .
	τ Virginis	6	11.5	13.4	14.7	24.2	25.2	26.3	27.5	28.5	38.2	39.4	41.5	55 26.40	0.13	37.24	13 54 49.29	12.63
	α Ophiuchi	7	5.1	7.2	8.5	18.2	19.2	20.3	21.6	22.8	32.5	33.7	36.0	29 20.46	0.11	37.33	17 28 43.24	10.75
	o Serpentis	8	15.1	17.0	18.3	28.1	29.0	30.2	31.4	32.5	42.5	43.7	45.6	34 30.31	+ 0.19	37.34	17 33 53.16	13.47
	Jupiter I	†9	16.2	17.7	19.1	20.4	22.6	. .	28.0	30.6	31.8	33.3	34.8	37 55.45	— 0.01	37.34	17 37 18.10	. .
	Jupiter II	†10	42.4	44.5	45.8	56.2	57.2	58.5	59.8	1.0	11.5	12.6	15.0	37 58.50	+ 0.22	37.34	17 37 21.38	. .
	Moon II.	11	8.9	11.0	12.4	22.7	23.9	25.2	26.5	27.6	38.1	39.4	41.6	59 25.21	0.20	37.35	17 58 48.06	. .
	μ Sagittarii	12	6.2	8.2	9.5	19.8	20.9	22.1	23.4	24.4	34.8	36.1	38.4	6 22.16	+ 0.21	37.35	18 5 45.02	14.37
Tr. 10	Polaris, S. P.	13	46.0	50.0	1.0	11.0	34.0	. .	. .	. .	. .	. .	. .	32 52.40	—22 26.66	38.22		89.06
	ζ Virginis	14	14.7	16.6	17.9	27.3	28.3	29.5	30.7	31.8	41.4	42.6	44.5	28 29.57	+ 0.14	38.22		12.74
	Weisse 859	15	47.0	48.9	50.2	59.6	0.6	1.7	2.9	. .	13.8	15.1	16.9	46 1.67	0.38	38.23	16 45 23.82	12.65
	23 Ophiuchi	16	49.2	51.2	52.5	1.8	3.0	4.1	5.3	6.3	16.2	17.4	19.3	48 4.21	0.16	38.23	16 47 26.14	12.75
	Weisse 913	17	2.0	4.2	5.3	14.7	15.8	17.0	18.2	19.1	29.0	30.2	32.3	49 17.07	0.16	38.23	16 48 39.00	12.74
	Weisse 958	18	. .	. .	. .	50.7	51.8	52.9	54.1	55.2	. .	. .	. .	51 52.94	+ 0.21	38.23	16 51 14.92	+ 12.58
	ε Ursæ Minoris	19	47.5	2.0	11.3	22.5	29.0	39.5	47.0	55.0	7.5	16.0	31.0	0 38.95	— 0.28	38.36	17 0 0.31	— 37.07
	α Herculis	20	55.3	. .	58.7	8.5	9.5	10.7	11.9	13.1	23.1	. .	26.4	9 10.80	+ 0.10	38.36		+ 10.67
Y. 11	δ Ursæ Minoris	21	. .	. .	. .	. .	. .	. .	14.7	56.5	17.0	39.5	0.3	26 13.60	— 9 29.78	38.93		— 108.38
	α Lyræ	22	. .	. .	. .	1.2	2.4	3.9	5.4	6.8	. .	. .	. .	33 3.94	+ 0.07	38.93	18 32 25.08	+ 7.20
	Lacaille 7838	23	39.3	41.6	43.2	54.9	56.2	57.7	59.1	0.4	12.3	13.8	16.4	36 57.72	+ 0.34	38.94	18 36 19.12	16.21
	B. A. C. 6376	24		. .	. .	57.6	58.9	1.0	17.0	19.8	21.0	22.3	23.8	39 12.67	— 27.41	38.94	18 38 6.32	14.26
	29 Sagittarii	25	5.6	7.7	9.0	19.2	20.3	21.6	22.8	23.9	34.3	35.5	37.7	42 21.60	+ 0.23	38.94	18 41 42.89	14.35
	Lacaille 7901	26	6.2	8.8	10.3	22.1	23.3	24.7	26.1	27.5	39.5	40.9	43.6	45 24.82	+ 0.35	38.94	18 44 46.23	16.28
	ν² Sagittarii	27	. .	. .	. .	37.3	38.3	39.6	40.8	42.0	52.5	53.6	56.0	47 45.01	— 5.13	38.94	18 47 0.94	14.61
	Lalande 35499	28	37.5	39.7	40.9	50.9	51.9	53.3	54.5	55.6	5.9	7.0	9.3	55 53.32	+ 0.23	38.94	18 55 14.61	14.24
	* — 18° 57′	29	40.5	42.7	43.9	53.9	55.0	56.2	57.4	58.6	8.8	10.0	12.2	59 56.29	0.23	38.94	18 59 17.58	14.20
	π Sagittarii	30	10.0	12.3	13.5	23.7	24.7	26.0	27.3	28.5	39.0	40.1	42.4	2 26.14	0.24	38.95	19 1 47.43	14.45
	20 Aquilæ	31	48.3	50.1	51.3	1.0	2.0	3.3	4.4	5.4	15.2	16.3	18.5	6 3.25	0.18	38.95	19 5 24.48	13.11
	d Sagittarii	32	10.2	12.4	13.6	23.8	24.8	26.1	27.3	28.4	38.7	39.8	42.1	10 26.11	+ 0.23	38.95	19 9 47.39	14.23
	O. Arg. S. 19418	33	. .	. .	. .	. .	. .	. .	41.2	43.9	45.3	46.7	48.2	14 45.06	— 37.31	38.95	19 13 28.80	15.03
	O. Arg. S. 19483	34	. .	. .	. .	. .	. .	. .	51.2	53.9	55.4	56.6	58.2	14 55.06	— 37.30	38.95	19 13 38.81	15.03
	O. Arg. S. 19575	35	22.3	24.6	25.8	36.1	37.2	38.6	39.8	41.0	51.4	52.8	55.0	20 38.60	+ 0.25	38.95	19 19 59.90	14.67
	O. Arg. S. 19674	36	45.0	47.1	48.5	58.9	59.9	1.2	2.5	3.6	14.1	15.4	17.6	25 1.25	0.25	38.95	19 24 22.55	14.65
	O. Arg. S. 19737	37	1.7	4.0	5.5	16.3	17.5	18.8	20.1	21.4	32.4	33.6	36.0	28 18.85	+ 0.29	38.95	19 27 40.19	15.32
	O. Arg. S. 19746	38	. .	. .	. .	55.0	56.4	58.6	16.0	18.6	20.1	21.6	23.1	29 11.17	— 29.44	38.95	19 28 2.78	15.32
	κ Aquilæ	39	. .	. .	. .	17.3	18.3	19.4	20.6	21.8	31.5	32.5	34.7	30 24.51	— 4.83	38.95	19 29 40.73	13.06
	* — 23° 57′	40	22.9	25.2	26.5	36.8	37.9	39.1	40.3	41.7	52.4	53.6	55.8	33 39.29	+ 0.26	38.95	19 33 0.60	14.76
	* — 23° 57′	41	. .	. .	. .	13.7	14.9	16.2	17.4	18.5	29.2	30.4	32.6	34 21.62	— 5.16	38.96	19 33 37.50	14.76
	f Sagittarii	42	55.2	57.2	58.5	8.6	9.7	11.0	12.3	13.4	23.7	24.9	27.1	39 11.05	+ 0.23	38.96	19 38 32.32	14.35
	Weisse 1068	43	17.5	19.7	20.9	30.7	31.7	33.0	34.2	35.2	45.2	. .	48.6	43 31.67	1.54	38.96	19 42 54.25	13.77
	Weisse 1150	44	33.2	35.3	36.4	46.2	47.3	48.6	49.8	50.9	0.8	2.0	4.1	46 48.60	+ 0.20	38.96	19 46 9.84	13.80
	Weisse 1187	45	. .	. .	. .	24.8	26.0	28.1	43.7	46.3	47.6	48.9	50.2	48 39.45	— 26.62	38.96	19 47 33.87	13.76
	Moon II.	46	24.5	26.4	27.8	37.9	38.9	40.2	41.5	42.6	52.9	54.1	56.3	54 40.28	+ 0.21	38.96	19 54 1.53	. .
	τ Aquilæ	47	59.5	1.3	2.6	12.1	13.1	14.4	15.7	16.6	26.4	27.6	29.7	58 14.45	+ 0.12	38.96	19 57 35.61	11.79
	λ Ursæ Minoris	48	. .	. .	. .	. .	. .	. .	29.0	27.0	24.0	. .	. .	1 26.67	— 1 1.57	38.96		329.25
E. 12	Polaris, S. P.	49	. .	. .	. .	3.5	22.0	32.5	45.0	3.0	. .	. .	. .	10 33.20	— 3.50	39.39	. . .	87.38
	ζ Virginis	50	15.7	17.8	19.1	28.4	29.5	30.7	31.9	33.0	42.5	43.7	45.9	28 30.74	+ 0.14	—39.39		+ 12.76

9–10. Through clouds.

	s.
June 8–9. P. and P. S. P., n. =	— 0.15.
10.	0.18.
11.	— 0.23.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
June 9, 15.7	— 37.28	— 0.030	+ 0.14
10, 15.3	38.29	0.040	
11, 19.3	— 38.95	— 0.020	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 12 E.	Saturn I	†1	15.1	17.2	18.5	27.9	29.1	30.2	31.4	32.6	. .	. .	. .	32 25.25	+ 5.17	—39.39	13 31 51.03	. .
	Saturn II	†2	55.3	56.7	58.0	59.2	1.4	. .	1.9	4.3	5.5	6.8	8.2	32 31.73	— 0.08	39.39	13 31 52.26	. .
	O. Arg. S. 13085	†3	0.2	1.3	2.6	4.0	5.0	. .	37.1	39.7	41.1	42.4	43.9	37 21.73	— 18.80	39.39	13 36 23.54	+ 13.70
	O. Arg. S. 13215	4	31.5	33.6	35.1	45.7	46.7	48.1	49.3	50.5	1.3	2.6	4.8	46 48.11	+ 0.21	39.39	13 46 8.93	13.70
	O. Arg. S. 13349	5	4.0	6.3	7.6	18.4	19.5	20.8	22.2	23.3	34.4	35.7	38.0	57 20.93	+ 0.21	39.40	13 56 41.74	13.84
	* — 33° 2′	6	. .	. .	. .	49.8	51.2	53.6	11.7	14.5	15.8	17.5	19.1	59 6.65	— 30.79	39.40	13 57 56.46	14.09
	O. Arg. S. 13387	7	. .	. .	. .	15.4	16.7	19.1	36.1	38.6	40.1	41.5	43.1	0 31.33	— 28.86	39.40	13 59 23.07	13.80
	α Libræ	8	51.8	53.9	55.1	4.8	6.0	7.3	8.4	9.6	19.5	20.6	22.8	44 7.26	+ 0.17	39.40		+ 13.36
Tr. 13	Venus II	9	0.9	1.8	3.0	4.2	5.3	34.0	34.3	36.8	38.0	39.3	40.8	49 20.44	— 17.16	39.89	2 48 23.39	— 1.29
	α Ceti	10	39.0	41.1	42.3	51.8	52.8	54.1	55.4	56.5	5.9	7.0	9.2	55 54.10	+ 0.13	39.89	2 55 14.34	+ 15.80
14	Sun I	11	14.3	16.6	17.8	28.3	29.4	30.6	31.9	33.3	43.7	45.1	47.2	31 30.75	0.11	39.93	5 30 50.93	. .
	Sun II	12	32.3	34.4	35.8	46.3	47.3	48.5	49.9	51.2	1.6	2.7	5.1	33 48.64	0.11	39.93	5 33 8.82	. .
	α Orionis	13	17.2	19.3	20.5	30.0	30.9	32.2	33.4	34.4	44.2	45.3	47.4	48 32.25	+ 0.13	39.93	5 47 52.45	15.62
	α Canis Minoris	14	39.4	41.5	42.8	. .	53.2	54.6	55.8	56.8	6.4	7.6	9.7	32 54.78	— 0.09	39.94	7 32 14.75	15.01
	β Geminorum	15	3.0	4.4	5.8	7.3	9.8	26.8	29.1	30.5	. .	. .	. .	37 14.59	+ 29.31	39.94	7 37 3.96	17.63
17	Sun I	16	. .	. .	. .	58.2	59.4	0.8	2.2	3.4	13.8	14.9	17.5	44 6.25	— 5.35	41.97	5 43 18.93	. .
	Sun II	17	2.6	4.6	6.1	16.3	17.5	18.7	20.0	21.2	31.8	32.8	35.3	46 18.81	+ 0.07	41.97	5 45 36.91	. .
	α Canis Minoris	18	41.7	43.7	45.1	54.4	55.5	56.8	57.9	58.8	8.4	9.7	11.7	32 56.70	0.12	42.02		15.02
18	α Pegasi	19	32.3	34.4	35.6	45.4	46.5	47.7	49.0	50.0	0.0	1.2	3.3	58 47.76	0.08	43.21	22 58 4.63	12.58
	γ Piscium	20	40.3	42.3	43.7	53.0	54.1	55.3	56.5	57.5	7.0	8.4	10.4	10 55.32	0.13	43.21	23 10 12.24	13.33
	θ Piscium	21	37.5	39.5	40.7	50.3	51.3	. .	53.5	54.7	4.4	5.5	7.6	21 52.50	0.11	43.22	23 21 9.39	13.13
	γ Pegasi	22	46.9	48.9	50.3	0.0	1.0	2.3	3.6	4.6	14.6	15.7	18.0	7 2.35	+ 0.08	43.25	0 6 19.18	13.41
	Polaris	23	37.0	55.0	48.0	13.0	54.0	45.0	29.0	15.0	42.0	33.0	54.0	10 44.09	— 4.47	43.29		82.05
	β Arietis	24	40.1	42.2	43.6	53.6	54 7	56.0	57.2	58.3	8.6	9.9	12.1	47 56.03	+ 0.06	43.31	1 47 12.78	14.93
	α Arietis	25	2.7	4.8	6.1	16.4	17.4	18.8	20.2	21.2	31.7	33.1	35.3	0 18.88	0.05	43.32	1 59 35.61	+ 15.29
	Moon II	26	12.4	14.4	15.7	25.7	26.9	28.2	29.4	30.5	40.6	41.9	44.1	29 28.16	0.09	43.34	2 28 44.91	. .
	Venus II	27	22.3	24.4	25.7	35.6	36.6	37.8	39.0	40.1	50.1	51.3	53.4	0 37.84	0.09	43.36	2 59 54.57	— 1.20
	Mercury II	28	38.4	40.5	41.9	52.3	53.5	54.6	55.8	57.0	7.5	8.9	11.0	52 54.67	0.05	43.43	4 52 11.29	— 0.20
	β Orionis	29	31.7	33.6	35.0	44.5	45.5	46.7	48.0	49.0	58.7	59.8	2.0	8 46.77	0.18	43.44	5 8 3.51	+ 13.98
19	Sun I	30	5.3	7.4	8.8	19.0	20.2	. .	22.5	23.9	34.6	35.9	38.0	52 21.56	0.04	43.47	5 51 38.13	. .
	Sun II	31	23.1	25.3	26.8	37.2	38.3	39.5	40.7	42.2	52.5	53.8	56.0	54 39.58	0.05	43.47	5 53 56.16	. .
	α Canis Minoris	32	43.8	45.2	46.5	55.7	56.9	58.2	59.4	0.4	10.2	11.2	13.4	32 58.26	0.12	43.53	7 32 14.85	15.02
	β Geminorum	33	. .	32.6	34.0	54.8	55.8	57.3	58.6	59.9	10.8	12.1	. .	37 57.34	0.03	43.53	7 37 3.84	17.63
	Venus II	34	56.2	58.1	59.4	9.1	10.1	11.3	12.6	13.7	23.7	24.9	27.0	3 11.46	0.08	. .		. .
21	β Ceti	35	21.3	23.4	24.7	34.7	35.8	37.0	38.3	39.5	49.7	50.9	53.1	37 37.13	0.21	47.16		13.56
	Polaris	36	30.0	25.0	15.0	3.0	35.0	. .	. .	. .	. .	. .	. .	48 21.60	+22 26.43	47.17	1 10 0.86	79.11
E. 22 Y.	Polaris, S. P.	†37	. .	. .	. .	18.0	38.0	49.5	0.0	16.5	. .	. .	. .	10 48.40	— 0.35	47.63	1 10 0.42	78.64
	* — 36° 56′	38	. .	. .	. .	55.4	56.9	59.5	18.5	21.5	23.1	24.8	26.6	30 13.29	— 32.23	47.69	14 28 53.37	14.72
	Lacaille 6047	39	39.5	41.6	43.0	53.6	54.7	56.0	57.3	58.4	8.9	10.3	12.6	33 55.99	+ 0.25	47.70	14 33 8.54	14.04
	ε Bootis	40	38.6	40.9	42.2	52.8	54.0	55.4	56.7	57.9	8.9	10.2	12.5	39 55.46	+ 0.06	47.70	14 39 7.82	10.72
	O. Arg. S. 13978	41	. .	. .	. .	44.1	45.1	46.5	47.8	49.0	59.8	1.2	3.6	43 52.14	— 5.35	47.70	14 42 59.09	14.21
	Lacaille 6134	42	20.7	23.0	24.4	35.2	36.3	37.6	38.9	40.1	51.0	52.3	54.7	46 37.65	+ 0.25	47.71	14 45 50.19	14.24
	B. A. C. 4911	43	. .	. .	. .	9.5	10.6	11.9	13.3	14.6	25.5	26.6	29.2	47 17.65	— 5.35	47.71	14 46 24.59	14.23
	O. Arg. S. 14094	44	16.2	18.3	19.7	30.0	31.0	32.2	33.5	34.5	45.0	46.3	48.5	50 32.29	+ 0.22	47.71	14 49 44.80	13.84
	O. Arg. S. 14246	45	. .	. .	. .	28.3	29.5	30.7	32.0	33.1	43.5	44.8	47.0	59 36.15	— 5.11	47.72	14 58 43.32	13.87
	O. Arg. S. 14307	46	. .	. .	. .	47.5	48.6	50.0	51.2	52.4	2.9	4.1	6.3	2 55.38	— 5.17	47.72	15 2 2.49	14.01
	β Libræ	47	20.4	22.3	23.6	33.1	34.1	35.3	36.5	37.7	47.4	48.4	50.6	10 35.40	+ 0.17	47 73	15 9 47.84	12.99
	α Serpentis	48	12.7	14.7	16.0	25.5	26.5	27.8	29.0	30.0	39.7	40.8	43.0	38 27.79	+ 0.12	—47.75	15 37 40.16	+ 11.82

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	ε.	
	h.	s.	s.	s.
June 12,	14.1	— 39.40	— 0.016	+ 0.14
	14, 5.9	39.93	0.013	
	17, 7.5	42.02	0.030	
	18, 2.8	43.35	0.038	
	21, 0.6	— 47.16	— 0.040	

1. Through clouds.
2. Through clouds.
3. Through clouds.
37. Cloudy.

	s.
June 12–14, n. =	— 0.10.
17,	0.20.
18,	— 0.25.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 22	*b*	Scorpii	1	26.5	28.7	30.1	40.5	41.6	43.0	44.2	45.4	56.1	57.4	59.6	43 43.01	+ 0.24	—47.75	15 42 55.50	+ 14.32
Y.	A	Scorpii	2	5.3	7.4	8.8	19.4	20.5	21.7	23.0	24.3	34.9	36.2	38.5	46 21.82	0.24	47.75	15 45 34.31	14.31
		Lacaille 6641	3	47.8	50.4	51.9	3.7	4.9	6.4	7.8	9.2	21.2	22.6	25.2	54 6.46	0.31	47.76	15 53 19.01	15.43
		Weisse 859	4	56.5	58.4	59.7	9.1	10.1	11.3	12.5	13.6	23.3	24.5	26.4	46 11.40	0.16	47.80	16 45 23.76	12.59
		Iris	5	44.5	46.5	47.9	58.1	59.2	0.3	1.7	2.8	13.0	14.3	16.5	51 0.44	0.23	47.80	16 50 12.87	. .
		* — 24° 2′	6	18.8	20.8	22.1	32.6	33.7	35.1	36.3	37.4	48.0	49.3	51.5	56 35.06	+ 0.24	47.81	16 55 47.49	14.42
		O. Arg. S. 16279	7	. .	. .	. .	3.2	4.3	5.5	6.9	8.0	18.6	19.9	22.1	57 11.06	— 5.18	47.81	16 56 18.07	14.42
		O. Arg. S. 16352	8	48.1	50.1	51.7	2.3	3.4	4.7	6.0	7.3	18.1	19.4	21.5	1 4.78	+ 0.25	47.81	17 0 17.22	14.71
		Lalande 31199	9	38.9	41.0	42.4	52.4	53.6	54.8	56.1	57.2	7.5	8.8	11.0	3 54.88	0.22	47.82	17 3 7.28	14.07
		O. Arg. S. 16477	10	7.6	10.0	11.4	20.6	22.7	24.0	25.2	26.4	37.1	38.3	40.6	6 23.99	0.24	47.82	17 5 36.41	14.43
		O. Arg. S. 16497	11	9.2	11.3	12.5	23.0	24.1	25.4	26.7	27.9	38.5	39.6	41.9	7 25.46	0.24	47.82	17 6 37.88	14.43
	a	Herculis	12	4.8	6.9	8.2	18.0	19.1	20.3	21.5	22.6	32.7	33.8	35.8	9 20.34	0.10	47.82	17 8 32.62	10.60
		Lacaille 7230	13	2.6	5.0	6.8	18.7	19.8	21.4	22.9	24.3	36.6	37.9	40.7	12 21.52	0.32	47.82	17 11 34.02	16.09
		Lacaille 7241	14	59.8	2.3	3.8	15.8	17.1	18.6	20.0	21.4	33.7	35.1	37.8	14 18.67	0.32	47.82	17 13 31.17	16.06
		B. A. C. 5862	15	25.2	27.4	28.8	39.1	40.2	41.5	42.8	43.9	54.4	55.8	57.9	16 41.54	0.23	47.82	17 15 53.95	14.43
		* — 31° 28′	16	26.9	29.2	30.7	41.9	43.0	44.4	45.8	47.0	58.5	59.8	2.2	18 44.49	+ 0.27	47.83	17 17 56.93	15.30
		Lacaille 7302	17	. .	. .	. .	3.1	4.6	6.5	24.6	27.5	28.9	30.4	31.8	21 19.73	— 30.16	47.83	17 20 1.74	15.28
	*c*²	Ophiuchi	18	46.0	48.0	49.4	59.7	0.8	2.1	3.6	4.6	15.2	16.4	18.7	24 2.23	+ 0.23	47.83	17 23 14.63	14.46
		* — 31° 12′	19	30.6	32.8	34.3	45.5	46.6	48.0	49.5	50.7	1.8	3.2	5.6	26 48.05	+ 0.27	47.83	17 26 0.49	15.29
		Jupiter I	20	17.8	19.2	20.6	21.8	24.4	. .	29.4	32.1	33.4	34.9	36.3	30 56.99	— 0.02	47.83	17 30 9.14	. .
		Jupiter II	21	44.0	45.9	47.4	57.7	58.8	0.1	1.4	2.6	12.8	14.4	16.6	31 0.15	+ 0.23	47.83	17 30 12.55	. .
		* — 27° 48′	22	55.0	57.0	58.4	9.2	10.3	11.7	13.0	14.2	25.1	26.4	28.8	35 11.83	+ 0.25	47.84	17 34 24.24	14.91
		O. Arg. S. 17105	23	. .	. .	. .	52.6	53.9	56.2	13.4	16.1	17.4	19.0	20.3	36 8.61	— 29.15	47.84	17 34 51.62	14.91
	3	Sagittarii	24	38.4	40.6	42.1	52.8	53.9	55.3	56.6	57.8	8.7	10.0	12.3	39 55.32	+ 0.25	47.84	17 39 7.73	14.91
		* — 22° 52′	25	43.2	45.5	47.0	57.0	58.1	59.5	0.8	1.9	11.9	13.3	15.8	42 59.46	0.23	47.84	17 42 11.85	14.38
		O. Arg. S. 17270	26	31.3	33.5	34.8	45.0	46.1	47.4	48.6	49.9	0.5	1.7	3.8	43 47.51	0.23	47.84	17 42 59.90	14.38
		O. Arg. S. 17320	27	49.2	51.4	52.8	3.6	4.7	6.1	7.3	8.5	19.6	20.9	23.3	46 6.13	0.26	47.85	17 45 18.54	15.03
		* — 28° 44′	28	59.7	2.0	3.4	14.3	15.5	16.8	18.2	19.4	. .	. .	. .	47 11.16	5.94	47.85	17 46 29.25	15.04
		* — 23° 33′	29	31.8	34.1	35.4	45.5	46.7	48.0	49.4	50.5	0.9	2.3	4.4	53 48.09	+ 0.23	47.85	17 53 0.47	14.46
		O. Arg. S. 17509	30	. .	. .	. .	24.5	25.9	28.1	44.7	47.3	48.6	50.0	51.5	55 40.08	— 27.99	47.85	17 54 24.24	14.39
		* — 22° 50′	31	. .	. .	. .	11.9	13.1	15.3	31.8	34.4	35.7	37.1	38.5	56 27.23	27.99	47.85	17 55 11.39	14.39
		* — 22° 48′	32	. .	. .	. .	49.0	50.3	52.4	9.0	11.6	12.9	14.3	15.8	57 4.41	— 27.98	47.86	17 55 48.57	14.39
		Lalande 33147	33	40.8	42.9	44.2	54.2	55.5	56.7	57.9	59.1	9.6	11.7	13.0	59 56.87	+ 0.22	47.86	17 59 9.23	14.28
		Lalande 33210	34	8.0	10.1	11.5	21.6	22.7	24.0	25.3	26.4	36.6	37.9	40.1	1 24.02	0.22	47.86	18 0 36.38	14.28
	μ	Sagittarii	35	16.7	18.9	20.3	30.5	31.6	32.8	33.9	35.1	45.5	46.6	48.8	6 32.79	0.22	47.86	18 5 45.15	+ 14.19
	δ	Ursæ Minoris	36	. .	. .	. .	15.2	32.0	53.5	14.0	32.0	. .	. .	. .	16 53.34	0.10	47.87	18 16 5.57	— 108.28
	1	Aquilæ	37	27.7	29.7	30.9	40.5	41.5	42.7	43.9	44.9	54.7	55.9	58.0	28 42.76	+ 0.17	47.88	18 27 55.05	+ 12.88
	51	Cephei, S. P.	38	. .	. .	. .	33.5	12.0	47.5	23.0	1.0	. .	. .	. .	36 47.40	— 0.12	47.89	6 35 59.39	162.50
	α	Andromedæ	39	58.3	0.6	2.1	12.7	13.9	15.2	16.5	17.7	28.7	30.0	32.3	2 15.27	+ 0.06	48.14	0 1 27.19	13.11
	γ	Pegasi	40	52.0	54.0	55.3	5.1	6.2	7.4	8.6	9.7	19.6	20.8	23.0	7 7.43	0.10	48.15	0 6 19.38	13.29
	β	Ceti	41	22.3	24.4	25.7	35.7	36.8	38.0	39.3	40.4	50.6	51.8	54.0	37 38.09	0.21	48.17	0 36 50.13	13.53
		Polaris	42	. .	. .	. .	20.0	1.0	48.5	36.5	20.0	. .	. .	. .	10 49.20	0.35	48.20	1 10 1.35	78.17
Tr.	*α*	Tauri	43	44.3	46.4	. .	57.5	58.5	0.0	1.2	2.3	. .	13.6	15.6	28 59.93	+ 0.10	48.47	4 28 11.56	16.20
	β	Orionis	44	. .	. .	. .	3.8	5.0	7.1	22.3	24.8	26.1	27.4	28.7	9 18.15	— 26.12	48.51	5 8 3.52	+ 13.93
		Mercury II	45	16.0	18.0	19.5	30.0	31.0	32.2	33.6	34.9	45.3	46.6	48.8	27 32.35	+ 0.07	48.53	5 26 43.89	— 0.19
23		Sun II	46	7.0	8.8	10.4	20.7	21.8	23.2	24.5	25.6	36.2	37.4	39.8	11 23.22	0.11	48.59	6 10 34.74	— 68.90
	α	Canis Minoris	47	48.4	50.3	51.6	1.0	2.0	3.2	4.5	5.5	15.1	16.3	18.4	33 3.30	0.13	48.68	7 32 14.75	+ 15.01
	β	Geminorum	48	35.5	37.8	39.3	49.9	51.1	52.2	53.5	55.2	6.1	7.4	9.5	37 52.53	0.11	48.69	7 37 3.95	17.62
Y.	*γ*	Leonis	49	5.4	7.5	8.9	19.0	20.1	21.3	22.6	23.8	34.0	35.3	37.5	13 21.40	0.11	48.88		15.38
E.		Lacaille 5872	50	54.0	56.3	57.8	9.0	10.2	11.6	13.1	14.3	25.9	27.1	29.6	9 11.72	+ 0.10	—49.06	14 8 22.76	+ 14.26

June 21–22. P., P. S. P., and P., n. = — 0.18.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 22, 19.1	— 47.91	— 0.047	+ 0.14

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction 1870.0
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 14	μ Sagittarii	1	47.4	48.8	50.3	51.6	54.2	..	..	..	..	..	..	5 50.46	+ 36.00	—41.16	18 5 45.30	+ 14.05
Tr.	* — 21° 6′	2	..	..	..	27.4	28.4	29.7	31.1	32.1	..	..	..	6 29.74	— 0.10	41.16	18 5 48.48	+ 14.06
	δ Ursæ Minoris	3	36.7	11.4	31.0	14.5	32.0	51.0	12.0	28.8	9.3	31.5	3.0	16 51.02	5.91	41.17	18 16 3.94	— 105.71
	B. A. C. 6301	4	1.8	3.7	5.1	15.3	16.4	17.6	18.9	19.9	30.0	31.3	33.4	25 17.58	0.06	41.18	18 24 36.34	+ 13.22
	1 Aquilæ	5	21.3	23.3	24.5	34.3	35.4	36.6	37.9	38.8	48.3	49.5	51.6	28 36.50	— 0.10	41.18	18 27 55.22	12.71
	51 Cephei, S. P.	6	..	..	..	23.0	0.0	38.0	12.0	57.0	..	..	..	36 38.00	+ 8.21	41.19	6 36 5.02	159.55
	γ Pegasi	7	46.0	48.1	49.3	59.2	0.4	1.6	2.8	3.8	13.4	14.8	16.8	7 1.47	— 0.19	41.28	..	12.61
Y. 17	β Leonis	8	38.2	40.4	41.5	51.6	52.7	53.9	55.1	56.2	6.0	7.3	9.4	42 53.85	0.19	41.96	..	13.90
	η Virginis	9	28.7	30.8	32.0	41.6	42.7	43.9	45.0	46.0	55.6	56.8	58.9	13 43.82	— 0.11	41.98	..	13.61
	Polaris, S. P.	10	..	..	..	..	..	..	36.0	2.0	14.0	23.0	29.0	48 20.80	+22 43.27	41.99	1 10 22.08	56.57
Tr.	Jupiter I	11	28.9	30.3	31.8	33.2	35.8	..	..	..	..	..	..	18 32.00	+ 36.25	42.29	17 18 25.96	..
	Jupiter II	12	..	57.6	58.9	9.4	10.6	11.9	13.2	14.3	24.5	26.0	..	19 11.82	— 0.24	42.29	17 18 29.29	..
	Weisse 508	13	16.4	18.4	19.7	29.7	30.6	31.8	33.0	34.1	43.8	45.1	47.1	28 31.79	0.17	42.30	17 27 49.32	10.75
	α Ophiuchi	14	10.2	12.4	13.6	23.5	24.5	25.8	27.0	28.0	37.6	39.0	41.0	29 25.69	— 0.17	42.30	17 28 43.22	10.77
	O. Arg. S. 17281	†15	2.8	4.9	6.3	..	..	..	..	..	32.5	33.8	36.1	44 19.40	+ 0.04	42.30	17 43 37.14	14.00
	B. A. C. 6081	16	28.4	30.5	31.8	42.0	43.1	44.5	45.7	46.9	56.8	58.3	0.3	52 44.39	— 0.02	42.31	17 52 2.06	14.00
	* — 21° 30′	17	3.0	5.3	6.6	16.9	18.1	19.4	20.7	21.8	31.8	33.3	35.3	55 19.29	0.02	42.31	17 54 36.96	14.12
	* — 21° 27′	18	34.7	36.8	38.1	48.3	49.5	50.8	52.1	53.2	3.5	4.8	6.8	58 50.78	0.02	42.31	17 58 8.45	14.11
	Lalande 33147	19	15.3	17.3	18.5	28.8	29.9	31.4	32.6	33.7	43.9	45.2	47.5	59 31.28	0.02	42.31	17 58 48.95	14.11
	Lalande 33164	20	..	..	..	49.4	50.6	52.0	53.2	54.2	4.4	5.7	7.8	59 57.16	5.38	42.31	17 59 9.47	14.11
	O. Arg. S. 17809	21	46.1	48.4	49.6	59.8	1.0	2.2	3.6	4.6	14.5	15.9	18.2	5 2.17	— 0.03	42.31	18 4 19.83	13.99
	O. Arg. S. 17892	22	33.6	35.8	37.2	47.2	48.3	49.6	50.9	51.8	..	..	..	7 44.30	+ 5.21	42.31	18 7 7.20	13.93
	O. Arg. S. 17905	23	..	..	..	3.6	4.7	5.9	7.2	8.3	..	..	..	8 5.94	— 0.08	42.31	18 7 23.55	13.93
	O. Arg. S. 17916	24	..	..	..	29.6	30.9	32.9	48.8	51.3	52.6	53.8	55.2	8 44.39	27.20	42.31	18 7 34.88	13.93
	* — 18° 58′	25	..	..	..	..	..	..	7.3	9.7	11.0	12.4	13.8	9 10.84	35.12	42.31	18 7 53.41	13.93
	* — 18° 58′	26	..	..	..	27.1	28.5	30.7	46.4	48.7	50.1	51.5	52.8	9 41.98	27.20	42.31	18 8 32.47	13.93
	O. Arg. S. 17965	27	..	..	..	0.1	1.5	3.5	19.3	21.7	23.0	24.4	25.7	10 14.90	27.20	42.31	18 9 5.39	+ 13.93
	δ Ursæ Minoris	28	37.5	11.7	31.0	14.5	33.0	53.0	12.0	29.5	9.0	30.0	5.0	16 51.47	6.25	42.31	18 16 2.91	— 105.19
	1 Aquilæ	29	22.4	24.5	25.6	35.4	36.5	37.6	38.9	39.9	49.4	50.8	52.7	28 37.61	— 0.07	42.32	18 27 55.22	+ 12.71
	26 Sagittarii	30	7.4	9.4	10.8	21.4	22.6	23.8	25.2	26.2	36.6	38.1	40.1	34 23.78	0.00	42.32	18 33 41.46	14.31
	* — 6° 9′	31	33.8	..	36.4	37.6	40.2	..	40.4	42.7	43.9	..	46.6	42 10.20	+ 0.13	42.32	18 41 28.01	12.48
	Weisse 1020	32	56.5	..	59.8	9.4	10.5	11.7	12.9	13.9	23.3	..	26.5	42 11.61	— 0.08	42.32	18 41 29.21	12.40
	Lalande 34984	33	58.5	0.4	1.7	11.4	12.5	13.6	14.8	15.8	25.2	26.7	28.5	43 13.56	0.08	42.32	18 42 31.16	12.48
	Weisse 1219	34	11.6	13.7	14.9	24.7	25.9	27.0	28.2	29.2	38.9	40.2	42.3	49 26.96	— 0.06	42.33	18 48 44.57	12.40
	* — 7° 30′	35	43.0	44.4	45.6	46.9	49.2	..	50.0	52.3	53.5	54.7	56.1	56 19.57	+ 0.13	42.33	18 55 37.39	12.59
	Weisse 1398	36	16.4	18.5	19.7	29.5	30.6	31.6	32.9	33.9	43.4	44.6	46.8	56 31.63	— 0.08	42.33	18 55 49.22	12.59
	Weisse 1412	37	..	..	..	9.5	10.8	12.8	27.8	30.2	31.3	32.5	33.8	57 23.59	26.01	42.33	18 56 15.25	12.60
	ζ Aquilæ	38	42.6	44.8	46.0	55.8	56.9	58.1	59.4	0.5	10.1	11.5	13.5	59 58.11	0.18	42.33	18 59 15.60	10.42
	ϵ Piscium	39	26.4	28.4	29.6	39.2	40.3	41.5	42.7	43.8	53.3	54.5	56.5	56 41.47	0.14	42.45	0 55 58.88	13.01
	Polaris	40	..	..	..	51.0	34.0	22.0	10.0	51.0	..	..	..	11 21.60	16.87	42.46	1 10 22.27	56.07
	θ^1 Ceti	41	46.1	48.1	49.4	59.1	0.1	1.4	2.6	3.6	13.2	14.5	16.5	18 1.33	0.07	42.46	1 17 18.80	12.83
	o Piscium	42	45.9	47.9	49.1	58.8	59.8	1.0	2.2	3.3	12.8	14.1	16.2	39 1.01	0.15	42.47	1 38 18.39	13.48
	β Arietis	43	40.3	42.6	43.7	54.1	55.2	56.4	57.8	58.9	8.9	10.2	12.4	48 56.41	— 0.21	42.47	1 48 13.73	14.02
	α Arietis	44	3.0	5.2	6.4	16.9	18.0	19.3	20.6	..	31.9	33.3	35.5	0 19.01	+ 0.01	42.48	1 59 36.54	14.37
	η Tauri	45	56.0	58.3	59.5	10.1	11.3	12.6	13.8	14.9	25.3	26.8	28.8	40 12.49	— 0.23	42.51	3 39 29.75	15.28
	Moon II	46	5.2	7.4	8.7	19.1	20.2	21.4	22.7	23.8	34.0	35.4	37.5	9 21.40	0.20	42.52	4 9 38.68	..
	γ Tauri	47	35.4	37.7	38.9	..	..	..	..	..	3.5	4.6	6.6	12 51.12	0.15	42.52	4 12 8.45	15.41
Y.	α Tauri	48	..	..	..	..	..	..	25.8	28.1	29.5	30.7	32.2	29 29.26	34.71	42.35	4 28 12.20	+ 15.61
	Venus II	†49	4.9	7.1	8.4	18.6	19.8	21.0	22.2	23.3	33.3	34.7	36.7	37 20.91	— 0.15	—42.35	4 36 38.41	— 0.84

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 17, 12.0	— 41.97	— 0.030	— 0.11
23.8	— 42.43	— 0.021	

15. Through clouds.
49. Unsteady.

July 17, n. = —0.26 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 23	B. A. C. 5862 . .	1	26.9	29.0	30.4	40.7	41.8	43.1	44.4	45.5	56.0	57.3	59.6	16 43.15	+ 0.20	—49.29	17 15 54.06	+ 14.42
E.	*b* Ophiuchi . . .	2	44.1	46.3	47.8	58.1	59.2	0.6	1.8	3.0	13.5	14.7	17.0	19 0.55	0.20	49.30	17 18 11.45	14.45
	c^2 Ophiuchi . . .	3	47.5	49.5	50.8	1.3	2.4	3.7	4.9	6.0	16.6	18.0	20.2	24 3.72	0.20	49.31	17 23 14.61	14.45
	Lacaille 7345 . .	4	29.0	31.1	32.6	43.9	45.2	46.6	48.0	49.2	0.5	1.9	4.4	26 46.58	+ 0.23	49.31	17 25 57.50	15.43
	Jupiter I . . .	5	46.8	48.3	49.7	50.9	53.4	. .	58.6	1.1	2.5	3.8	5.3	30 26.04	— 0.05	49.31	17 29 36.68	. .
	Jupiter II . . .	6	12.8	15.0	16.4	26.7	27.9	29.2	30.3	31.5	42.0	43.1	45.5	30 29.13	+ 0.20	49.31	17 29 40.02	. .
	* — 27° 48′ . . .	7	33.0	34.4	35.8	37.1	39.5	. .	10.8	12.0	13.4	14.7	15.9	34 54.66	19.00	49.32	17 34 24.34	14.90
	* — 27° 49′ . . .	8	23.9	26.1	27.7	38.2	39.4	40.7	42.0	43.3	54.4	55.5	57.7	35 40.81	0.21	49.32	17 34 51.70	14.91
	3 Sagittarii . . .	9	40.0	42.2	43.8	54.4	55.5	56.9	58.2	59.4	10.2	11.6	14.0	39 56.93	0.21	49.32	17 39 7.82	14.91
	μ Herculis . . .	10	46.0	48.1	49.5	0.1	1.4	2.8	4.2	5.2	16.2	17.4	19.8	42 2.79	0.11	49.33	17 41 13.57	8.72
	Lacaille 7588 . .	11	44.6	46.9	48.5	59.7	0.9	2.3	3.7	4.9	16.4	17.8	20.2	2 2.35	0.23	49.35	18 1 13.23	15.54
	B. A. C. 6161 . .	12	5.7	7.8	9.4	19.6	20.7	22.0	23.3	24.5	35.0	36.4	38.5	4 22.08	0.20	49.36	18 3 32.92	14.48
	μ Sagittarii . . .	13	18.4	20.5	21.8	32.0	33.0	34.3	35.4	36.5	47.1	48.1	50.4	6 34.32	0.19	49.36	18 5 45.15	14.20
	O. Arg. S. 17955 .	14	9.7	11.8	13.2	23.3	24.4	25.7	26.9	28.0	38.5	39.5	41.8	9 25.71	0.19	49.36	18 8 36.54	14.14
	δ Ursæ Minoris .	15	. .	. .	. .	15.5	32.0	52.5	12.5	30.0	. .	. .	. .	16 52.50	1.45	49.37		108.19
	Lacaille 7728 . .	16	17.4	19.5	21.2	32.6	33.9	35.4	36.7	37.9	49.7	50.1	53.7	21 35.28	0.24	49.38	18 20 46.14	15.72
	O. Arg. S. 18324 .	17	1.0	3.1	4.4	14.3	15.4	16.6	17.9	19.0	29.3	30.4	32.5	24 16.72	+ 0.18	49.38	18 23 27.52	13.99
	1 Aquilæ . . .	18	. .	. .	. .	42.0	43.1	44.4	45.5	46.5	56.2	57.4	59.5	28 49.33	— 4.85	49.39	18 27 55.09	12.87
	B. A. C. 6343 . .	19	54.7	56.8	58.2	8.4	9.7	11.0	12.2	13.3	23.9	25.2	27.3	31 10.97	+ 0.20	49.39	18 30 21.78	+ 14.49
Tr.	Venus II . . .	20	52.3	54.3	55.6	5.3	6.5	7.7	8.9	10.1	20.0	21.2	23.4	14 7.75	0.12	49.72	3 13 18.15	— 1.12
24	Sun I	21	59.8	2.0	3.2	13.7	14.8	16.1	17.4	18.7	29.1	30.4	32.6	13 16.16	0.11	49.90	6 12 26.37	. .
	Sun II	22	17.8	19.8	21.2	31.7	32.7	33.9	35.3	36.4	47.0	48.2	50.5	15 34.05	+ 0.11	49.90	6 14 44.26	. .
	α Canis Minoris .	23	. .	. .	. .	2.4	3.5	4.6	5.7	6.9	16.6	17.8	19.7	33 9.65	— 4.85	49.97		+ 15.01
	ζ Virginis . . .	24	26.6	28.5	29.8	39.4	40.3	41.5	42.6	43.7	53.3	54.5	56.6	28 41.53	+ 0.14	50.33	13 27 51.34	12.86
	Polaris, S. P. . .	25	13.0	18.0	28.0	40.0	. .	. .	. .	. .	. .	. .	. .	33 54.75	— 23 3.52	50.33		76.87
	β Libræ . . .	26	23.1	25.0	26.3	35.8	36.9	38.1	39.3	40.4	50.1	51.3	53.4	10 38.15	+ 0.17	50.44	15 9 47.88	13.00
	Lacaille 6344 . .	27	37.7	39.9	41.5	52.8	54.1	55.6	57.0	58.2	9.8	11.3	13.7	14 55.60	0.28	50.44	15 14 5.44	14.88
	O. Arg. S. 14544 .	28	54.8	56.9	58.1	8.3	9.4	10.6	11.9	13.1	23.4	24.6	26.9	19 10.73	0.21	50.44	15 18 20.50	13.89
	Lacaille 6414 . .	29	55.3	57.5	58.9	9.2	10.2	11.5	12.8	14.0	24.4	25.7	27.9	25 11.58	0.22	50.45	15 24 21.35	14.10
	O. Arg. S. 14683 .	30	54.1	56.0	57.4	7.7	8.6	9.9	11.2	12.4	22.8	23.9	26.1	29 10.01	0.21	50.45	15 28 19.77	13.94
	O. Arg. S. 14736 .	31	15.1	17.2	18.7	29.0	30.0	31.2	32.5	33.8	44.4	45.6	47.8	32 31.39	0.22	50.45	15 31 41.16	14.12
	42 Libræ	32	55.8	58.0	59.5	9.7	10.9	12.2	13.5	14.7	25.1	26.4	28.6	33 12.22	0.22	50.46	15 32 21.98	14.12
	* — 30° 14′ . . .	33	1.4	3.8	5.3	16.3	17.4	19.0	20.2	21.4	32.6	34.0	36.3	37 18.88	0.25	50.46	15 36 28.67	14.72
	Lacaille 6517, (1st *)	34	0.3	2.6	4.1	15.8	17.1	18.5	19.9	21.3	32.9	34.2	36.9	39 18.51	+ 0.29	50.46	15 38 28.34	15.20
	Lacaille 6517, (2d *)	35	. .	. .	. .	. .	. .	. .	57.0	59.9	1.5	3.0	4.7	40 1.22	— 40.84	50.46	15 38 29.92	15.20
	A Scorpii	36	8.2	10.2	11.7	22.1	23.3	24.6	26.0	27.1	37.8	38.9	41.3	46 24.65	+ 0.23	50.47	15 45 34.41	14.30
	3 Scorpii	37	10.9	13.1	14.5	25.0	26.1	27.3	28.6	29.8	40.4	41.7	44.1	47 27.41	0.23	50.47	15 46 37.17	14.30
	O. Arg. S. 15061 .	38	38.7	40.7	42.0	51.9	53.1	54.3	55.4	56.5	6.6	7.8	10.8	50 54.27	0.19	50.47	15 50 3.99	13.60
	O. Arg. S. 15134 .	39	55.7	57.9	59.3	9.8	10.9	12.2	13.5	14.7	25.5	26.7	29.0	55 12.29	0.23	50.48	15 54 22.04	14.41
	Dorpat 1999, (1st *)	40	35.4	37.3	38.7	. .	. .	. .	. .	. .	2.6	3.7	5.8	57 50.58	0.13	50.48	15 57 0.23	13.16
	Dorpat 1999, (2d *)	41	. .	. .	. .	48.7	49.9	51.0	52.1	53.2	. .	. .	. .	57 50.98	+ 0.22	50.48	15 57 0.72	13.16
	O. Arg. S 15235 .	42	. .	. .	. .	. .	. .	. .	46.1	48.8	50.1	51.4	52.9	0 49.86	— 35.94	50.48	15 59 23.44	14.05
	B. A. C. 5378 . .	43	55.2	57.2	58.7	. .	. .	. .	. .	. .	25.2	26.4	28.7	4 11.90	+ 0.22	50.49	16 3 21.63	14.53
	* — 26° 44′ . . .	44	. .	. .	. .	12.2	13.2	14.6	15.8	17.1	. .	. .	. .	4 14.58	0.31	50.49	16 3 24.40	14.53
	B. A. C. 5743 . .	45	55.7	57.8	59.3	9.6	10.6	11.9	. .	14.4	25.0	26.2	28.5	57 11.90	0.37	50.54	16 56 21.73	14.23
	O. Arg. S. 16352 .	46	51.1	53.4	54.6	5.3	6.5	7.8	9.1	10.3	21.2	22.4	24.7	1 7.85	0.26	50.54	17 0 17.57	14.70
	Weisse 46 . . .	47	13.3	15.3	16.6	26.1	27.1	28.3	29.5	30.6	40.2	41.4	43.5	5 28.35	0.16	50.55	17 4 37.96	12.51
	α Herculis . . .	48	7.6	9.7	10.9	20.6	21.7	23.0	24.3	25.4	35.2	36.5	38.7	9 23.05	0.08	50.55	17 8 32.58	10.59
	* — 4° 6′ . . .	49	. .	. .	. .	22.4	23.5	24.6	25.7	26.7	. .	. .	. .	11 24.58	+ 0.21	50.56	17 10 34.23	+ 12.48
	Jupiter I . . .	50	15.8	17.4	18.7	20.1	22.4	. .	27.6	30.2	31.4	32.9	34.4	30 55.09	0.00	—50.58	17 30 4.51	. .

June 23–24, 3h. to 14h. n. = — 0.10.
24, 14h. to 16h. 0.16.
16h. to 19h. — 0.23.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
June 23, 16.5	— 49.24	— 0.074	+ 0.14
24, 15.1	— 50.43	— 0.060	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 24 Tr.	Jupiter II	1	42.1	44.1	45.6	55.8	56.8	58.1	59.4	0.6	11.7	12.3	14.6	30 58.28	+ 0.25	—50.58	17 30 7.95	. .
	* — 34° 35′	2	0.8	3.3	4.8	16.3	17.5	19.0	20.4	21.7	. .	. .	. .	48 12.98	+ 6.38	50.59	17 47 28.77	+ 15.74
	* — 34° 35′	3	. .	. .	. .	33.7	35.1	36.5	38.0	39.3	50.9	52.2	54.8	48 42.56	— 5.69	50.59	17 47 46.28	15.74
	4 Sagittarii	4	. .	13.2	14.6	24.0	26.1	27.3	28.6	29.8	40.2	41.5	. .	52 27.25	+ 0.27	50.60	17 51 36.92	14.47
	* — 21° 30′	5	11.3	13.5	14.8	25.0	26.1	27.3	28.7	29.8	40.2	41.5	43.6	55 27.44	0.24	50.60	17 54 37.08	14.23
	γ^2 Sagittarii	6	45.2	47.7	49.1	0.0	1.2	2.5	3.9	5.2	16.3	17.8	20.1	58 2.64	0.30	50.60	17 57 12.34	15.20
	* — 22° 54′	7	17.1	19.1	20.7	30.7	31.9	33.2	. .	35.6	46.2	47.4	49.8	0 33.17	0.37	50.60	17 59 42.94	14.35
	B. A. C. 6161	8	6.9	9.0	10.5	20.8	22.0	23.2	24.4	25.8	36.3	37.6	39.9	4 23.31	0.26	50.61	18 3 32.96	14.45
	μ Sagittarii	9	19.7	21.7	23.1	33.1	34.2	35.5	36.7	37.0	48.3	49.5	51.7	6 35.50	0.24	50.61	18 5 45.13	14.17
	O. Arg. S. 17892	10	41.7	43.7	45.2	55.2	56.2	57.4	58.7	59.8	. .	. .	. .	7 52.24	5.50	50.61	18 7 7.13	13.96
	O. Arg. S. 17905	11	. .	. .	.	11.5	12.5	13.8	15.1	16.3	. .	. .	. .	8 13.84	0.28	50.61	18 7 23.51	13.97
	O. Arg. S. 17916	12	. .	. .	. .	22.8	23.9	25.3	26.4	27.5	. .	. .	. .	8 25.18	0.28	50.61	18 7 34.85	13.97
	O. Arg. S. 17928	13	. .	. .	. .	40.1	41.2	42.4	43.7	44.9	. .	. .	. .	8 42.46	+ 0.28	50.61	18 7 51.93	13.97
	* — 18° 58′	14	. .	. .	. .	56.3	57.7	59.5	15.7	18.2	19.5	20.8	22.2	9 11.24	— 27.27	50.61	18 7 53.36	13.97
	O. Arg. S. 17965	15	39.9	42.0	43.2	53.5	54.5	55.7	57.0	58.2	8.2	9.3	11.7	9 55.75	+ 0.23	50.61	18 9 5.37	13.97
	18 Sagittarii	16	10.5	12.8	14.2	25.4	26.7	28.0	29.4	30.6	41.9	43.2	45.6	13 28.03	0.30	50.62	18 12 37.71	15.33
	η Serpentis	17	58.4	0.3	1.5	11.1	12.1	13.3	14.5	15.6	24.9	26.1	28.3	15 13.28	+ 0.15	50.62	18 14 22.81	+ 12.12
	δ Ursæ Minoris	18	. .	. .	. .	17.5	35.0	11.0	27.0	7.5	29.0	51.0	13.5	24 16.44	— 7 21.01	50.62		— 108.10
	26 Sagittarii	19	15.2	17.5	19.0	29.2	30.3	31.7	33.0	34.1	44.7	46.0	48.2	34 31.72	+ 0.26	50.64	18 33 41.34	+ 14.51
	Lacaille 7838	20	51.1	53.5	55.2	6.8	8.1	9.5	10.9	12.4	24.3	25.6	28.2	37 9.60	0.34	50.64	18 36 19.30	15.97
	29 Sagittarii	21	17.6	19.6	21.0	31.2	32.2	33.4	34.7	35.8	46.2	47.4	49.5	42 33.51	0.24	50.65	18 41 43.10	14.13
	Lacaille 7901	22	18.3	20.8	22.3	34.1	35.2	36.9	38.3	39.6	51.7	53.1	55.6	45 36.90	0.35	50.65	18 44 46.60	16.02
	Weisse 1219	23	19.6	21.7	23.0	32.5	33.5	34.7	36.0	37.2	46.7	48.0	50.1	49 34.82	0.18	50.65	18 48 44.35	13.01
	B. A. C. 6485	24	7.3	9.5	10.8	21.2	22.2	23.4	24.7	26.0	36.4	37.6	40.0	54 23.55	0.25	50.66	18 53 33.14	14.39
	ζ Aquilæ	25	50.7	52.7	54.0	3.7	4.8	6.0	7.3	8.3	18.2	19.4	21.6	0 6.06	0.09	50.66	18 59 15.49	10.60
E. 26	β Scorpii	26	16.3	18.6	19.9	29.9	30.9	32.2	33.5	34.6	44.9	46.9	48.2	58 32.28	0.23	53.51		13.84
	O. Arg. S. 15312	27	43.8	45.9	47.3	. .	. .	. .	. .	. .	13.2	14.4	. .	2 56.92	3.48	53.51	16 2 6.89	14.20
	O. Arg. S. 15609	28	52.6	54.9	56.4	7.2	8.3	9.7	11.0	12.2	23.3	24.6	27.0	17 9.75	0.29	53.54	16 17 16.50	14.81
	O. Arg. S. 15641	29	36.8	39.0	40.6	51.3	52.5	53.9	55.3	56.3	7.5	8.6	11.1	18 53.90	0.29	53.54	16 19 0.65	14.82
	O. Arg. S. 15698	30	14.0	16.2	17.5	27.9	28.9	30.3	31.4	32.6	43.0	44.4	46.6	23 30.26	0.25	53.54	16 23 36.97	14.19
	O. Arg. S. 15726	31	25.8	28.0	29.4	39.5	40.7	42.0	43.2	44.3	54.8	56.1	58.3	25 42.01	0.25	53.55	16 25 48.71	14.20
	Weisse 539	32	53.0	54.9	56.1	5.6	6.7	7.9	9.1	10.1	19.9	21.0	23.1	29 7.95	+ 0.18	53.55	16 29 14.58	12.93
	Weisse 544	33	29.8	30.1	32.1	33.2	34.2	. .	2 6	5.0	6.1	7.6	9.0	29 49.05	— 16.81	53.55	16 29 38.69	12.93
	Weisse 619	34	31.1	33.1	34.5	44.0	45.1	46.2	47.4	48.5	58.1	59.4	1.4	32 46.25	+ 0.17	53.56	16 32 52.86	12.62
	O. Arg. S. 15868	35	42.0	44.1	45.5	55.6	56.7	58.0	59.4	0.4	10.6	11.9	14.1	34 58.03	+ 0.24	53.56	16 35 4.71	14.07
	Weisse 792, (1st *)	36	17.7	19.1	20.4	21.7	24.0	. .	24.4	26.7	27.9	29.2	30.6	41 54.17	— 0.07	53.57	16 42 0.53	12.58
	Weisse 792, (2d *)	37	42.6	44.7	46.0	55.3	56.5	57.6	58.8	59.9	9.5	10.6	12.7	41 57.65	+ 0.16	53.57	16 42 4.24	12.59
	Weisse 859	38	2.2	4.1	5.4	14.9	15.9	17.2	18.3	19.2	29.0	30.2	32.2	45 17.24	+ 0.16	53.57	16 45 23.83	12.58
	O. Arg. S. 16125	39	. .	. .	. .	. .	. .	. .	9.5	12.0	13.4	14.9	16.4	49 13.24	— 36.27	53.58	16 48 43.39	14.25
	* — 28° 43′	40	11.0	12.3	13.6	15.1	16.1	. .	48.0	50.9	52.4	53.7	55.1	56 32.82	— 18.86	53.59	16 56 20.37	14.90
	Lacaille 7128	41	6.1	8.1	9.7	20.5	21.6	23.0	24.4	25.5	36.5	37.8	40.2	57 23.04	+ 0.29	53.59	16 57 29.74	14.91
	Lalande 31199	42	44.8	46.9	48.3	58.2	59.3	0.7	1.9	3.0	13.2	14.5	16.7	3 0.68	+ 0.24	53.60	17 3 7.32	14.05
	O. Arg. S. 16477	43	27.4	28.7	30.0	31.3	32.3	. .	3.0	5.5	6.9	8.5	9.7	5 48.33	— 18.05	53.60	17 5 36.68	14.36
	O. Arg. S. 16497	44	15.1	17.1	18.5	28.9	30.0	31.2	32.5	33.7	44.1	45.6	47.9	6 31.33	+ 0.25	53.60	17 6 37.98	14.36
	* — 34° 50′	†45	25.3	27.7	29.4	40.7	42.0	43.6	45.1	46.3	58.1	59.5	2.0	9 43.61	+ 0.33	53.61	17 9 50.33	15.66
	Lacaille 7230	46	. .	. .	. .	42.4	44.0	46.5	5.8	8.8	10.6	12.1	13.8	12 0.50	— 32.58	53.61	17 11 34.31	16.06
	Lacaille 7241	47	21.9	23.1	24.5	26.0	27.3	. .	2.7	5.7	7.3	9.0	10.6	13 45.81	— 20.86	53.61	17 13 31.34	16.04
	B. A. C. 5862	48	31.1	33.2	34.6	45.1	46.1	47.4	48.7	49.8	0.4	1.6	3.9	15 47.44	+ 0.26	53.61	17 15 54.09	14.40
	b Ophiuchi	49	. .	. .	. .	17.9	19.1	21.2	38.0	40.5	41.9	43.3	44.8	18 33.34	— 28.22	53.62		14.43
	c^2 Ophiuchi	50	51.7	53.8	55.3	5.5	6.6	7.9	9.0	10.3	. .	. .	. .	23 2.51	+ 5.71	—53.62	17 23 14.60	+ 14.43

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 26, 16.6	— 53.56	— 0.080	+ 0.14

45. Faint.

June 26, n. = — 0.23.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 26	* — 31° 12′ . . .	1	36.7	39.2	40.5	51.6	52.8	54.1	55.9	56.9	8.0	9.4	11.7	25 54.25	+ 0.30	—53.62	17 26 0.93	+ 15.26
E.	Jupiter I . . .	2	37.9	40.0	41.2	51.6	52.8	54.1	55.4	56.6	7.0	8.2	10.4	28 54.11	+ 0.25	53.63	17 28 0.73	. .
	Jupiter II . . .	†3	18.5	19.8	21.0	22.5	25.0	. .	30.3	32.8	34.2	35.6	37.0	28 57.67	0.00	53.63	17 28 4.04	. .
Y.	α Tauri	†4	. .	. .	. .	. .	. .	. .	. .	39.5	40.7	42.2	43.6	29 41.50	— 35.81	54.01		16.12
	Mercury . . .	5	35.9	38.1	39.5	50.0	51.1	52.4	53.7	54.9	5.5	6.9	9.1	4 52.46	+ 0.20	54.15	6 3 58.51	. .
27	Sun I	6	32.1	34.1	35.4	45.5	46.6	48.0	49.4	50.7	1.2	2.5	4.5	25 48.18	0.20	54.18	6 24 54.20	. .
	Sun II	7	49.6	51.7	53.1	3.5	4.6	5.8	7.1	8.3	18.7	19.9	22.3	28 5.87	0.20	54.18	6 27 11.89	. .
	α Canis Minoris . .	8	54.0	55.9	57.2	6.5	7.5	8.8	9.9	10.9	20.9	22.1	24.0	33 2.88	0.13	54.27	7 32 14.74	15.00
	α Leonis	9	51.0	53.1	54.4	4.0	5.1	6.2	7.4	8.6	18.5	19.7	21.8	2 6.35	0.12	54.49	10 1 11.98	14.84
	Moon I	10	59.5	1.3	2.7	12.3	13.4	14.6	15.8	16.9	26.8	28.0	30.2	5 14.68	0.13	54.49	10 4 20.32	. .
	γ Leonis	11	11.2	13.4	14.7	24.7	25.8	27.2	28.5	29.6	39.8	41.0	43.3	13 27.20	0.11	54.50	10 12 32.81	15.42
	Polaris, S. P. . .	12	. .	. .	50.5	30.0	49.0	59.0	12.5	29.5	59.0	11.0	47.0	8 51.95	1 24.50	54.75		. .
	ζ Virginis	13	31.0	33.0	34.1	43.6	44.7	45.9	47.1	48.1	57.8	58.9	1.0	28 45.93	0.14	54.79	13 27 51.28	+ 12.90
Tr.	Venus II . . .	14	50.2	52.4	53.5	3.5	4.5	5.6	6.9	8.1	18.0	19.2	21.4	26 5.75	0.12	55.68	3 25 10.19	— 1.06
	η Tauri	15	8.4	10.6	12.1	22.2	23.3	24.6	26.0	27.2	37.6	38.9	41.3	40 24.74	0.11	55.70	3 40 29.15	+ 16.41
	α Tauri	16	51.7	53.7	55.1	4.9	6.0	7.2	8.6	9.6	19.4	20.5	22.9	29 7.24	0.11	55.75	4 28 11.60	16.10
	β Orionis	17	44.2	45.9	47.4	57.0	58.0	59.2	0.3	1.4	11.1	12.3	14.4	8 59.20	0.16	55.78	5 8 3.58	13.83
	β Tauri	18	25.4	27.6	29.1	39.7	40.9	42.3	43.7	14.8	55.9	57.2	59.6	18 42.38	0.10	55.80	5 17 46.68	17.88
28	Sun I	19	42.5	44.7	45.8	56.3	57.4	58.7	0.1	1.3	11.8	13.2	15.3	29 58.83	0.11	55.87	6 29 3.07	. .
	Sun II	20	0.2	2.2	3.8	14.0	15.1	16.5	17.7	18.9	29.5	30.8	33.0	32 16.52	0.11	55.87	6 31 20.76	. .
	α Canis Minoris . .	21	55.5	57.6	58.8	8.3	9.4	. .	11.8	13.0	22.4	23.7	25.7	33 10.62	0.12	55.93	7 32 14.81	14.99
	β Geminorum . . .	22	42.9	44.9	46.6	57.3	58.5	. .	1.1	2.4	13.3	14.6	16.9	37 59.85	0.08	55.94	7 37 3.99	17.60
Y.	α Hydræ	23	38.8	40.8	42.2	51.6	52.7	53.9	55.0	56.1	5.9	7.1	9.2	21 53.94	0.16	55.93		13.74
	Moon I	24	49.4	51.3	52.6	2.2	3.3	4.6	5.7	6.8	16.6	17.7	20.0	53 4.56	0.13	56.02	10 52 8.67	. .
	δ Leonis	25	36.9	38.9	40.4	50.5	51.5	52.8	54.0	55.3	5.5	6.9	9.0	7 52.88	+ 0.11	56.03		14.64
Tr.	Polaris, S. P. . .	26	22.0	26.0	36.0	48.0	13.0	. .	. .	. .	. .	. .	. .	33 29.00	—22 29.15	56.30	1 10 3.55	73.67
	ζ Virginis	27	32.5	. .	35.7	45.2	46.1	47.4	48.7	49.7	59.3	. .	2.6	28 47.47	+ 0.14	56.30	13 27 51.31	12.90
	α Bootis	28	12.8	15.0	16.4	. .	27.4	28.7	30.1	31.2	41.4	. .	44.8	10 27.53	+ 1.38	56.34	14 9 32.57	11.41
	ρ Bootis	29	. .	. .	. .	56.6	57.7	59.2	0.6	1.7	13.1	. .	16.7	27 3.66	— 4.34	56.35	14 26 2.97	10.74
	54 Hydræ, (1st *) .	30	54.6	56.8	58.2	. .	. .	. .	. .	. .	24.1	25.4	27.7	39 11.13	+ 0.17	56.37	14 38 14.93	14.05
	54 Hydræ, (2d *) .	31	. .	. .	. .	9.1	10.3	11.4	12.8	14.1	. .	. .	. .	39 11.54	0.26	56.37	14 38 15.43	14.05
	O. Arg. 8. 13978 .	32	38.5	. .	41.9	52.8	53.9	55.2	56.6	57.8	8.7	. .	12.3	43 55.30	0.22	56.37	14 42 59.15	14.26
	Lacaille 6134 . .	33	29.5	31.7	33.2	. .	. .	. .	. .	. .	59.8	1.2	3.5	46 46.42	0.18	56.37	14 45 50.23	14.28
	B. A. C. 4911 . .	34	. .	. .	. .	18.3	19.5	20.8	22.1	23.3	. .	. .	. .	47 20.80	0.27	56.37	14 46 24.70	14.28
	* + 43° 58′ . . .	35	50.0	52.4	54.3	7.5	8.8	10.4	12.2	13.7	27.0	28.7	31.5	52 10.59	0.09	56.38	14 51 14.30	8.85
	Weisse (2) 1154 .	36	46.7	49.3	51.1	4.2	5.4	7.3	8.9	10.4	23.7	25.3	28.1	54 7.31	+ 0.09	56.38	14 53 11.02	8.81
	Weisse (2) 1162 .	37	. .	. .	. .	. .	. .	. .	5.2	8.7	10.2	12.0	13.9	55 10.00	— 46.60	56.38	14 53 27.02	8.81
	* — 26° 19′ . . .	38	7.2	9.3	10.8	21.4	22.5	23.8	25.2	26.3	37.2	38.4	40.7	58 23.89	+ 0.21	56.38	14 57 27.72	14.23
	O. Arg. 8. 14277 .	39	. .	. .	. .	20.5	21.7	23.0	24.2	25.5	36.3	37.6	39.8	1 28.57	— 5.31	56.39	15 0 26.87	14.24
	Weisse 3	40	1.5	2.6	4.8	14.5	15.4	16.6	17.9	19.0	28.7	29.9	32.1	3 16.64	+ 0.16	56.39	15 2 20.41	13.22
	Dorpat 1914, (1st *)	41	0.4	1.7	3.1	4.3	6.6	. .	6.9	9.1	10.4	11.8	13.1	5 36.74	— 0.08	56.39	15 4 40.27	12.82
	Dorpat 1914, (2d *)	42	22.3	24.3	25.7	35.0	36.0	37.2	38.5	39.6	49.3	50.3	52.4	5 37.33	+ 0.15	56.39	15 4 41.09	12.82
	O. Arg. 8. 14428 .	43	. .	. .	. .	2.6	3.6	4.9	6.1	7.3	. .	. .	. .	11 4.90	0.24	56.40	15 10 8.74	13.84
	O. Arg. 8. 14437 .	44	17.7	19.9	21.3	31.3	32.5	33.7	35.0	36.2	46.3	47.6	49.9	11 33.76	0.19	56.40	15 10 37.55	13.85
	* — 24° 29′ . . .	45	. .	. .	. .	13.9	15.0	16.2	17.6	18.8	. .	. .	. .	13 16.30	0.25	56.40	15 12 20.15	14.16
	* + 55° 49′ . . .	46	36.2	39.3	41.9	58.6	0.2	2.4	4.6	6.4	23.7	25.7	29.4	18 2.58	+ 0.09	56.41	15 17 6.26	5.80
	Lacaille 6414 . .	47	. .	. .	. .	15.2	16.4	17.6	18.8	19.9	30.4	31.6	33.9	25 22.98	— 5.20	56.41	15 24 21.37	14.12
	42 Libræ	48	2.0	4.1	5.4	15.7	16.8	18.1	19.4	20.5	31.0	32.2	34.5	33 18.15	+ 0.20	56.42	15 32 21.93	14.14
	* — 15° 58′ . . .	49	35.9	38.3	39.6	49.3	50.4	51.6	52.9	53.9	3.9	5.1	7.4	37 51.66	0.18	56.43	15 36 55.41	13.56
	ε Serpentis . . .	50	49.6	51.7	52.9	2.3	3.3	4.6	5.8	6.9	16.4	17.6	19.6	45 4.61	+ 0.13	—56.43	15 44 8.31	+ 11.97

3. Cloudy.
4. Cloudy.

June 27, n. = — 0.10. (s.)
June 28–29. P. S. P., P., and P. S. P., n. = — 0.11. (s.)

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
June 27, 9.1	— 54.41	— 0.086	+ 0.14
28, 14.2	— 56.34	— 0.061	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 28	* — 24° 32′	1	57.5	59.8	1.1	10.6	12.7	14.0	15.3	16.4	27.1	28.2	30.5	49 13.92	+ 0.20	—56.44	15 48 17.68	+ 14.29
Tr.	O. Arg. S. 15134	2	1.5	3.7	5.1	15.8	16.7	18.1	19.5	20.6	31.4	32.6	35.0	55 18.18	+ 0.21	56.44	15 54 21.95	14.42
	Dorpat 1999, (1st *)	3	19.8	21.3	22.5	23.7	26.0	. .	27.2	29.5	30.9	32.2	33.5	57 56.66	— 0.07	56.45	15 57 0.14	13.17
	Dorpat 1999, (2d *)	4	. .	43.9	45.1	54.7	55.8	57.0	58.2	59.3	8.9	10.1	. .	57 57.00	+ 0.17	56.45	15 57 0.72	13.17
	O. Arg. S. 15295	5	24.0	25.8	27.2	. .	. .	. .	. .	. .	52.1	53.3	55.5	2 39.65	0.14	56.45	16 1 43.34	13.67
	O. Arg. S. 15300	6	. .	. .	. .	39.0	40.0	41.2	42.4	43.6	. .	. .	. .	2 41.14	+ 0.23	56.45	16 1 44.92	13.66
	* — 17° 50′	7	. .	. .	. .	. .	. .	. .	46.7	49.2	50.5	51.9	53.2	5 50.30	— 35.16	56.46	16 4 18.68	13.74
	O. Arg. S. 15398	8	24.4	26.5	27.9	37.7	38.8	40.0	41.3	42.4	52.6	53.8	56.0	6 40.13	+ 0.18	56.46	16 5 43.85	13.74
	δ Ophiuchi	9	1.0	3.0	4.3	13.6	14.8	16.0	17.1	18.2	27.7	28.9	31.0	8 15.96	0.15	56.46	16 7 19.65	12.49
	O. Arg. S. 15595	10	6.0	8.1	9.3	19.7	20.7	22.2	23.4	24.5	35.0	36.2	38.5	17 22.15	0.20	56.47	16 16 25.88	14.16
	* — 22° 30′	11	17.1	19.1	20.5	30.7	31.9	33.2	34.5	35.7	45.8	47.4	49.6	24 33.23	0.20	56.47	16 23 36.96	14.19
	O. Arg. S. 15726	12	. .	. .	. .	42.6	43.7	45.0	46.4	47.4	. .	. .	. .	26 45.02	+ 0.25	56.47	16 25 48.80	14.20
	Weisse 539	13	55.8	57.9	59.1	. .	9.7	10.9	12.2	13.2	23.0	24.2	26.2	30 11.22	— 0.06	56.48	16 29 14.68	12.93
	O. Arg. S. 15868	14	45.0	47.0	48.5	58.5	59.7	1.0	2.3	3.5	13.7	15.1	17.1	36 1.05	+ 0.19	56.49	16 35 4.75	14.07
	Weisse 758	15	55.7	57.6	59.0	. .	. .	. .	.	. .	22.5	23.7	25.9	41 10.73	0.11	56.49	16 40 14.35	12.68
	Weisse 760	16	. .	. .	. .	10.3	11.2	12.6	13.7	14.7	. .	. .	. .	41 12.50	0.20	56.49	16 40 16.21	12.69
	Iris	17	25.7	27.8	29.2	39.3	40.4	41.7	43.0	44.3	54.6	55.9	58.1	45 41.82	0.20	56.50	16 44 45.52	. .
	* — 22° 7′	18	33.6	35.6	36.8	47.2	48.4	49.6	50.8	51.9	2.5	3.8	6.1	46 49.66	0.20	56.50	16 45 53.36	14.19
	Weisse 958	19	56.4	58.1	59.4	9.0	10.1	11.3	12.4	13.5	23.1	24.4	26.4	52 11.28	0.15	56.50	16 51 14.93	12.50
	Lalande 31055	20	46.4	48.4	49.6	59.2	0.2	1.4	2.6	3.7	13.3	14.5	16.5	59 1.44	0.15	56.51	16 58 5.08	12.55
	Weisse 46	21	19.4	21.2	22.5	32.0	33.0	34.1	35.4	36.4	46 2	47.4	49.4	5 34.26	+ 0.15	56.52	17 4 37.89	12.51
A	Ophiuchi, (1st *)	22	23.0	24.6	25.9	27.3	30.0	. .	36.7	39.3	40.9	42.3	43.7	8 3.37	— 0.04	56.52	17 7 6.81	14.67
A	Ophiuchi, (2d *)	23	46.6	48.7	50.2	0.6	1.8	3.2	4.6	5.8	16.5	17.7	20.0	8 3.25	+ 0.21	56.52	17 7 6.94	14.67
	B A. C. 5813	24	. .	. .	. .	53.3	54.3	55.6	56.9	58.2	. .	. .	. .	8 55.66	+ 0.26	56.52	17 7 59.40	14.67
	Weisse 186	25	. .	. .	. .	46.9	47.9	49.1	50.3	51.4	1.0	2.2	4.2	12 54.13	— 4.82	56.52	17 11 52.79	12.47
	Weisse 249	26	1.5	3.5	4.8	14.2	15.1	16.5	17.6	18.7	28.4	29.7	31.6	16 16.51	+ 0.15	56.53	17 15 20.13	12.51
b	Ophiuchi	27	51.5	53.7	55.1	5.4	6.5	7.8	9.2	10.3	20.8	22.1	24.4	19 7.89	+ 0.20	56.53	17 18 11.56	+ 14.42
	Jupiter I	28	15.4	16.9	18.3	19.6	22.2	. .	27.3	29.7	31.2	32.6	34.1	27 54.73	— 0.05	56.54	17 26 58.14	. .
	Jupiter II	29	41.6	43.6	45.3	55.4	56.5	57.9	59.1	0.1	10.6	11.9	14.2	27 57.84	+ 0.20	56.54	17 27 1.50	. .
δ	Ursæ Minoris	30	50.0	23.0	43.0	23.0	42.0	2.0	21.0	39.0	22.0	43.0	16.0	17 2.18	0.51	56.59	18 16 6.10	— 107.81
1	Aquilæ	31	36.4	38.4	39.6	49.3	50.3	51.5	52.7	53.8	3.5	4.7	6.8	28 51.54	0.16	56.60	18 27 55.10	+ 12.81
α	Lyræ	32	2.8	5.2	6.7	18.9	20.2	21.7	23.3	24.5	37.0	38.4	40.9	33 21.78	+ 0.09	56.61	18 32 25.26	7.02
	Polaris	33	. .	. .	. .	33.0	13.0	3.0	51.0	33.0	. .	. .	. .	11 2.60	— 0.64	57.01	1 10 4.95	73.26
θ	Ceti	34	. .	. .	. .	. .	. .	. .	45.5	47.9	49.3	50.5	51.8	18 49.00	— 33.89	57.02	1 17 18.09	13.40
η	Piscium	35	59.1	1.1	2.5	12.2	13.2	14.5	15.7	16.8	26.8	28.0	30.1	25 14.54	+ 0.12	57.02	1 24 17.64	14.09
o	Piscium	36	59.5	1.5	2.8	12.4	13.5	14.6	15.8	16.9	26.6	27.9	29.8	39 14.66	0.13	57.03	1 38 17.76	14.06
β	Arietis	37	54.0	56.0	57.5	7.7	8.7	10.0	11.2	12.4	22.6	23.9	26.1	48 10.01	0.11	57.05	1 47 13.07	+ 14.62
Y.	Venus II	38	58.4	0.3	1.7	11.5	12.7	13.8	14.9	16.1	26.1	27.3	29.5	29 13.85	0.12	57.02	3 28 16.95	— 1.05
η	Tauri	39	9.9	12.0	13.4	23.7	24.9	26.1	27.5	28.6	39.0	40.4	42.4	40 26.17	0.10	57.03	3 39 29.24	+ 16.38
α	Tauri	40	53.1	55.1	56.4	6.3	7.7	8.6	9.8	11.0	20.9	22.2	24.4	29 8.65	0.11	57.07	4 28 11.69	16.08
α	Orionis	41	34.5	36.5	37.7	47.2	48.3	49.5	50.7	51.7	1.4	2.5	4.6	48 49.51	0.13	57.14	5 47 52.50	15.45
29	Sun I	42	52.6	54.6	56.0	6.4	7.5	8.8	10.2	11.3	21.7	22.8	25.1	34 8.82	0.11	57.19	6 33 11.74	. .
	Sun II	43	10.2	12.3	13.7	24.0	25.2	26.4	27.7	28.8	39.3	40.5	42.9	36 26.45	0.11	57.19	6 35 29.37	. .
α	Hydræ	44	40.2	42.3	43.5	53.1	54.2	55.4	56.6	57.6	7.4	8.6	10.6	21 55.45	0.16	57.33	9 20 58.28	13.75
γ	Leonis	45	14.0	16.2	17.5	27.6	28.7	30.0	31.2	32.3	42.7	43.9	46.1	13 30.02	0.11	57.38	10 12 32.75	15.43
	Moon I	46	30.5	32.4	33.7	43.4	44.4	45.6	46.8	47.9	57.7	58.9	1.0	39 45.66	0.14	57.46	11 38 48.34	. .
β	Virginis	47	23.9	26.0	27.1	36.6	37.7	38.9	40.0	41.1	50.8	51.9	54.0	44 38.91	0.14	57.46	11 43 41.59	13.67
β	Corvi	48	1.5	3.7	4.9	15.3	16.4	17.7	18.9	20.0	30.4	31.8	34.0	28 17.69	0.20	57.51	12 27 20.38	13.39
	Polaris, S. P.	49	. .	. .	. .	. .	. .	. .	25.0	18.5	10.0	2.0	38.0	48 18.70	22 45.26	57.52	1 10 6.44	+ 72.84
ε	Ursæ Minoris	50	5.5	20.5	29.3	35.7	46.5	55.5	5.0	13.0	24.0	33.0	47.7	0 55.97	+ 0.23	—57.75	16 59 58.45	— 35.98

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	ε.
h.	s.	s.	s.
June 29, 11.1	— 57.43	— 0.054	+ 0.14
5.8	— 58.62	— 0.060	

s.
June 29–30, n. = — 0.11.

r.
June 29, 12h. Image west 0.05. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 29	α Herculis	1	13.9	15.9	17.3	26.9	27.9	29.2	30.4	31.5	41.4	42.7	44.9	9 29.27	+ 0.12	−57.75	17 8 32.64	− 10.59
Y.	Jupiter I	2	8.5	10.8	12.2	22.5	23.6	24.9	26.1	27.3	37.7	39.0	41.2	27 24.87	+ 0.20	57.77	17 26 27.30	. .
	Jupiter II	3	49.3	50.6	51.9	53.3	55.9	. .	0.9	3.7	4.9	6.3	7.9	27 28.47	− 0.05	57.77	17 26 30.65	. .
	μ Sagittarii	4	26.7	28.8	30.2	40.3	41.3	42.6	43.9	45.1	55.4	56.7	58.9	6 42.72	+ 0.19	57.81	18 5 45.10	+ 14.12
	δ Ursæ Minoris	5	49.5	23.3	44.0	24.0	40.5	1.0	21.0	38.5	21.5	42.0	16.0	17 1.94	0.51	57.82	18 16 4.63	− 107.74
	1 Aquilæ	6	37.8	39.6	40.9	50.5	51.6	52.7	53.9	55.0	4.7	6.0	7.9	28 52.78	+ 0.16	57.83	18 27 5.11	+ 12.80
	51 Cephei, S. P.	7	10.0	29.0	3.0	46.2	24.7	0.5	35.0	13.0	53.5	27.5	46.0	36 58.95	− 0.62	57.84	6 36 0.49	+ 161.93
Tr.	Venus II	8	9.9	11.9	13.3	23.1	24.1	25.3	26.6	27.6	37.7	39.1	41.1	32 25.43	+ 0.12	58.48	3 31 27.07	− 1.03
	η Tauri	9	. .	. .	. .	40.5	41.9	44.1	0.6	3.2	4.7	6.1	7.5	40 56.08	− 28.29	58.49	3 39 29.30	+ 16.35
	α Tauri	10	44.6	46.7	48.0	57.9	58.9	0.1	1.3	2.4	12.4	13.5	15.8	29 0.15	+ 0.11	58.54	4 28 11.72	16.06
30	Sun I	11	2.4	4.6	6.0	16.3	17.6	18.9	20.2	21.4	31.8	33.1	35.4	38 18.88	0.11	58.67	6 37 20.32	. .
	Sun II	12	20.1	22.3	23.6	33.9	35.0	36.2	37.6	38.8	49.3	50.5	52.8	40 36.37	0.11	58.67	6 39 37.81	. .
	α Canis Minoris	13	58.3	0.3	1.6	11.1	12.2	13.4	14.5	15.7	25.3	26.3	28.6	33 13.39	0.13	58.72	7 32 14.80	14.98
	β Geminorum	14	45.5	47.8	49.2	0.0	1.0	2.4	3.8	5.2	15.9	17.4	19.6	38 2.53	0.10	58.73	7 37 3.90	+ 17.59
	Venus II	15	24.6	26.7	28.1	37.9	38.9	40.1	41.4	42.5	52.5	53.8	56.0	35 40.23	0.12	59.98	3 34 40.37	− 1.02
	α Tauri	16	56.1	58.2	59.4	9.3	10.4	11.6	12.8	14.0	23.9	25.3	27.4	29 11.67	+ 0.11	60.03		+ 16.04
July 2	Polaris, S. P.	17	32.0	38.0	46.0	57.0	21.0	. .	. .	. .	. .	. .	. .	33 38.80	−22 30.26	62.27		70.10
	τ Virginis	18	36.4	38.3	39.6	49.0	50.0	51.2	52.4	53.4	3.1	4.3	6.2	55 51.26	+ 0.14	62.28	13 54 49.12	12.82
	Moon I	19	. .	. .	. .	. .	. .	. .	25.4	27.9	29.3	30.7	32.1	1 29.08	− 35.03	62.29	13 59 51.76	. .
	κ Virginis	20	31.6	33.5	34.8	44.4	45.4	46.6	47.8	48.9	58.7	59.9	1.9	6 46.68	+ 0.16	62.30	14 5 44.54	13.25
	α Bootis	21	. .	. .	. .	. .	. .	. .	6.8	9.3	10.7	12.0	13.4	11 10.44	− 35.65	62.30	14 9 32.49	11.45
	λ Virginis	22	38.2	. .	41.4	51.3	52.2	53.4	54.5	55.6	5.6	. .	8.8	12 53.44	+ 0.16	62.30	14 11 51.30	13.38
	2 Libræ	23	59.7	1.6	3.0	12.6	13.6	14.8	16.0	17.1	27.0	28.2	30.2	17 14.89	+ 0.16	62.31	14 16 12.74	13.30
	8 Libræ	24	41.3	42.6	44.0	45.3	47.7	. .	50.0	52.3	53.8	55.1	56.4	44 18.85	− 0.07	62.34	14 43 16.44	13.52
	α Libræ	25	14.6	16.6	17.9	27.8	28.8	30.0	31.3	32.3	42.3	43.5	45.7	44 30.07	+ 0.17	62.34	14 43 27.90	+ 13.48
	Venus II	26	3.8	6.0	7.4	17.0	18.1	19.3	20.6	21.9	32.0	33.2	35.1	42 19.49	0.12	63.23	3 41 16.38	− 0.99
	α Tauri	27	59.4	1.4	2.8	12.7	13.8	15.0	16.2	17.2	27.2	28.4	30.7	29 14.98	0.12	63.28	4 28 11.82	+ 15.99
	β Orionis	28	51.6	53.7	55.1	4.8	5.6	6.8	7.9	9.0	18.9	20.0	22.1	9 6.86	0.15	63.32	5 8 3.69	13.74
3	Sun I	29	31.0	33.1	34.5	44.6	46.0	47.6	48.7	49.9	0.1	1.5	3.9	50 47.36	0.12	63.43	6 49 44.05	. .
	Sun II	30	48.5	. .	52.1	2.3	3.4	4.8	5.9	7.2	17.6	. .	21.3	53 4.79	0.12	63.43	6 52 1.48	. .
	Mercury	31	13.9	15.9	17.5	27.7	28.8	30.1	31.6	32.8	43.2	44.8	46.9	2 30.29	+ 0.12	63.44	7 1 26.97	. .
	α Canis Minoris	32	. .	. .	. .	15.9	17.1	18.1	19.2	20.3	30.0	31.2	33.3	33 23.14	− 4.85	63.47	7 32 14.82	14.97
	β Geminorum	33	50.3	52.5	54.0	4.8	6.0	7.3	8.6	9.7	20.8	22.1	24.5	38 7.33	+ 0.12	63.48	7 37 3.97	17.58
Y.	α Hydræ	34	. .	. .	. .	59.1	0.2	1.4	2.5	3.7	13.5	14.7	16.7	22 6.48	− 4.86	. .		13.77
E.	5 Libræ	35	22.7	24.6	26.0	35.8	36.8	38.0	39.3	40.3	50.3	51.6	53.7	38 38.10	+ 0.19	3.92	14 38 34.37	13.50
	α Libræ	†36	29.1	30.2	31.5	32.8	33.9	. .	3.0	5.4	6.8	8.3	9.6	43 49.06	− 17.24	3.93	14 43 27.89	13.48
	Moon I	37	27.4	29.6	30.6	40.8	41.9	43.1	44.3	45.4	55.7	56.9	59.1	49 43.16	+ 0.19	3.94	14 49 39.41	. .
	O. Arg. S. 14277	†38	13.9	16.1	17.4	27.9	29.0	30.3	31.6	32.7	43.7	45.0	47.2	0 30.44	0.23	3.95	15 0 26.72	14.27
	ι^1 Libræ	39	22.9	25.1	26.4	36.4	37.5	38.8	40.0	41.0	51.5	52.6	54.8	4 38.82	0.21	3.96	15 4 35.07	13.80
	* — 39° 4′	40	35.5	38.3	40.0	52.1	53.3	55.0	56.3	57.9	10.2	11.9	14.3	7 54.98	0.31	3.96	15 7 51.33	15.39
	β Libræ	41	36.5	38.5	39.8	49.2	50.2	51.5	52.7	53.8	3.5	4.7	6.8	9 51.56	0.17	3.96	15 9 47.77	13.06
	O. Arg. S. 14544	42	8.0	10.3	11.6	21.7	22.7	24.1	25.4	26.5	36.8	38.0	40.2	18 24.12	0.21	3.97	15 18 20.36	13.94
	ζ^1 Libræ	43	30.2	32.3	33.5	. .	. .	. .	. .	. .	58.1	59.4	1.5	20 45.83	0.15	3.97	15 20 42.01	13.60
	* — 35° 42′	44	7.3	9.9	11.5	23.0	24.2	25.6	27.2	28.5	40.4	42.0	44.4	31 25.82	0.29	3.98	15 31 22.13	15.25
	* — 35° 19′	45	39.6	42.0	43.6	55.3	56.4	57.9	59.5	0.9	12.5	13.9	16.3	33 57.99	0.29	3.98	15 33 54.29	15.23
	* — 30° 14′	46	35.5	37.9	39.3	50.2	51.4	52.8	54.2	55.4	6.5	7.9	10.3	35 52.85	+ 0.25	3.99	15 35 49.11	14.76
	* — 30° 16′	47	29.6	30.7	32.2	33.5	34.6	. .	7.2	10.0	11.4	13.0	14.4	36 51.66	− 19.20	3.99	15 36 28.47	14.77
	B. A. C. 5220	48	17.7	19.9	21.2	31.5	32.7	34.0	35.3	36.4	47.1	48.1	50.2	40 34.01	+ 0.22	3.99	15 40 30.24	14.26
	ε Serpentis	†49	. .	. .	. .	24.0	25.1	27.1	42.3	44.9	46.1	47.3	48.6	44 38.18	− 25.98	3.99	15 44 8.21	11.99
	d Herculis	50	26.3	28.5	30.0	41.4	42.6	. .	45.5	46.9	58.6	59.8	2.4	56 44.20	+ 0.05	− 4.07	16 56 40.18	+ 8.22

36. Through clouds.
38. Through clouds.
49. Through clouds.

s.
July 2–3, 3h. to 10h. n. = − 0.08.
3, 14h. to 19h. − 0.16.

July 3. Set the clock back one minute.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	s.
h.	s.	s.	s.
June 30, 4.5	− 60.03	− 0.060	+ 0.14
July 2, 14.3	62.31	0.065	
6.2	63.39	0.065	
3, 16.4	− 4.04	− 0.065	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 3	Weisse 249	†1	..	..	..	35.8	37.0	39.0	54.3	56.8	58.0	59.4	0.6	15 50.11	— 25.94	— 4.10	17 15 20.07	+ 12.49
E.	* — 31° 28′	2	43.3	45.6	47.2	58.4	59.5	0.7	2.2	3.5	14.9	16.2	18.6	18 0.92	+ 0.26	4.10	17 17 57.08	15.25
	Lacaille 7302	3	48.2	50.5	52.1	2.9	4.2	5.5	7.0	8.2	19.4	21.8	23.4	20 5.74	0.26	4.10	17 20 1.90	15.23
	Jupiter I	4	14.9	16.9	18.4	28.8	29.7	30.9	32.1	33.4	43.7	45.0	47.2	24 31.00	+ 0.22	4.11	17 24 27.11	..
	Jupiter II	5	55.4	57.0	58.4	59.6	2.2	..	7.2	9.9	11.3	12.7	14.2	24 34.79	— 0.03	4.11	17 24 30.65	..
	* — 28° 50′	6	40.6	43.0	..	55.2	56.4	57.8	59.2	0.4	..	12.6	15.0	31 57.80	+ 0.26	4.11	17 31 53.95	14.96
	* — 27° 46′	†7	11.5	13.6	14.0	25.7	26.7	28.2	29.5	30.7	..	..	..	34 22.49	5.87	4.12	17 34 24.24	14.84
	O. Arg. S. 17105	8	38.8	40.9	42.4	53.0	54.1	55.6	56.8	58.0	8.8	10.2	12.6	34 55.56	0.24	4.12	17 34 51.68	14.84
	3 Sagittarii	9	54.9	57.0	58.6	9.1	10.3	11.8	13.0	14.3	25.1	26.4	28.8	39 11.76	+ 0.24	4.12	17 39 7.88	14.84
	μ Herculis	†10	..	..	..	31.0	32.3	34.5	51.8	54.5	55.9	57.4	58.8	41 47.03	— 29.34	4.12	17 41 13.57	8.70
	O. Arg. S. 17320	11	..	7.7	9.3	..	21.1	22.5	23.8	..	..	37.3	39.9	45 23.09	— 0.27	4.13	17 45 18.69	14.95
	B. A. C. 6072	12	56.1	58.3	59.7	10.5	11.6	13.0	14.4	15.5	26.6	27.9	30.1	50 13.06	+ 0.25	4.13	17 50 9.18	14.96
	* — 21° 30′	13	24.9	27.1	..	38.5	39.6	40.8	42.1	43.3	..	55.0	57.0	54 40.92	0.22	4.14	17 54 37.00	14.16
	μ Sagittarii	14	33.1	35.1	36.6	46.7	47.8	49.1	50.4	51.5	1.6	3.0	5.2	5 49.10	0.21	4.15	18 5 45.16	+ 14.09
	δ Ursæ Minoris	15	..	..	..	31.0	48.0	7.0	26.0	45.0	..	..	..	16 7.40	0.40	4.16		— 107.41
Y. 4	α Coronæ Borealis	16	49.2	51.4	53.0	3.5	4.6	6.0	7.3	8.5	19.3	20.7	23.0	29 6.04	0.06	5.21	15 29 0.89	+ 10.15
	α Serpentis	17	30.1	32.1	33.4	42.9	43.8	45.1	46.3	47.4	57.1	58.3	0.3	37 45.16	0.12	5.21	15 37 40.07	11.85
	Moon I	18	32.4	34.4	35.8	46.0	47.0	48.3	49.6	50.7	1.1	2.3	4.5	41 48.37	0.21	5.22	15 41 43.36	..
	θ Libræ	19	1.3	3.4	4.7	14.5	15.6	16.8	18.0	19.1	29.3	30.4	32.5	46 16.87	0.20	5.23	15 46 11.84	13.62
	δ Scorpii	20	..	16.0	17.2	27.4	28.5	29.9	31.1	32.2	42.5	43.8	..	52 29.87	0.24	5.23	15 52 24.88	14.11
	β Scorpii	21	28.1	30.3	31.5	41.6	42.6	43.8	45.1	46.2	56.5	57.7	0.0	57 43.95	+ 0.22	5.24	15 57 38.93	13.87
	ν^2 Scorpii	22	..	4.0	5.3	15.3	16.4	17.6	18.8	20.0	30.3	31.5	33.6	4 19.28	— 1.36	5.24	16 4 12.68	13.87
E. 5	ω Ophiuchi	23	..	..	..	45.0	46.2	47.4	48.7	49.8	59.9	1.3	3.4	21 52.71	5.43	35.27	16 24 12.01	14.08
	ζ Ophiuchi	24	7.3	9.3	10.6	20.1	21.2	22.5	23.8	24.8	34.5	35.6	37.7	30 22.49	0.13	35.27		13.08
	Moon I	25	30.1	32.4	33.6	44.1	45.3	46.4	47.8	49.0	59.2	0.6	2.7	36 46.47	0.10	35.28	16 36 11.09	..
	O. Arg. S. 16223	26	54.1	56.2	57.4	7.6	8.8	10.0	11.2	12.4	22.4	23.4	25.6	54 9.90	0.10	35.29	16 53 34.51	13.85
	29 Ophiuchi	†27	..	..	..	34.5	35.6	36.9	38.0	39.0	49.1	50.4	52.4	54 41.99	5.36	35.29	16 54 1.34	13.86
	d Herculis	28	57.5	0.1	1.5	13.0	14.3	15.8	17.2	18.3	29.7	31.3	33.6	57 15.66	0.33	35.29		8.23
Y. 6	Mercury I	29	..	..	..	..	..	..	29.3	31.6	33.2	..	35.9	30 32.50	36.33	35.71	7 29 20.46	0.18
	α Hydræ	30	18.9	21.0	22.3	31.9	32.9	34.1	35.4	36.3	45.8	47.0	49.1	21 34.06	0.13	35.76	9 20 58.17	13.78
	α Leonis	31	32.5	34.6	35.8	45.5	46.5	47.9	49.2	30.3	0.0	1.2	3.4	1 47.90	0.21	35.79	10 1 11.90	14.90
	γ Leonis	32	52.6	54.9	56.2	6.5	7.5	8.8	10.0	11.2	21.2	22.5	24.6	13 8.73	0.25	35.79	10 12 32.69	15.47
	O. Arg. S. 15067	33	40.5	42.6	43.8	53.9	55.0	56.2	57.5	58.6	8.5	9.8	11.9	50 56.14	0.13	35.97	15 50 20.04	13.67
	O. Arg. S. 15134	34	41.2	43.5	44.9	55.5	56.6	57.9	59.3	0.4	11.0	12.4	14.4	54 57.92	0.03	35.98	15 54 21.91	14.45
	B. A. C. 5314	35	34.5	36.8	38.0	48.8	50.0	51.1	52.5	53.6	4.0	5.3	7.6	55 51.12	0.03	35.98	15 55 15.11	14.43
	* — 21° 37′	36	15.3	17.4	18.6	29.1	30.1	31.4	32.6	33.8	43.9	45.2	47.5	59 31.36	0.05	35.98	15 58 55.33	14.09
	O. Arg. S. 15227	37	..	..	..	..	..	..	5.3	7.7	9.0	10.3	11.7	0 8.80	35.73	35.98	15 58 57.09	14.08
	O. Arg. S. 15342	38	53.5	55.6	56.9	7.0	8.2	9.4	10.6	11.6	21.5	22.8	25.0	4 9.28	0.07	35.98	16 3 33.23	13.76
	O. Arg. S. 15398	39	4.1	5.1	7.3	17.6	18.7	19.9	21.1	22.2	32.2	33.5	35.7	6 19.86	0.07	35.98	16 5 43.81	13.76
	δ Ophiuchi	40	..	..	..	53.5	54.5	55.8	57.0	58.0	7.4	8.7	10.7	8 0.70	5.13	35.98	16 7 19.59	12.52
	19 Scorpii	41	54.3	56.6	57.8	8.4	9.5	10.7	12.0	13.2	23.6	25.0	27.2	13 10.75	0.04	35.99	16 12 34.72	14.31
	O. Arg. S. 15595	42	45.6	47.8	49.0	59.5	0.6	1.8	3.2	4.4	14.5	15.9	18.0	17 1.84	0.05	35.99	16 16 25.80	14.18
	α Scorpii	43	31.2	33.4	34.9	45.5	46.6	48.1	49.4	50.5	1.0	2.4	4.7	21 47.96	— 0.03	35.99	16 21 11.94	14.54
	Lacaille 6888	44	33.5	36.4	37.7	50.4	51.7	53.2	54.6	56.2	8.5	10.0	12.6	27 53.16	+ 0.04	35.99	16 27 17.21	16.13
	Weisse 562	45	..	..	..	10.3	11.5	13.5	28.5	30.8	32.0	33.3	34.6	31 24.31	— 25.86	35.99	16 30 22.46	12.16
	Weisse 575	46	..	..	..	44.4	45.6	47.6	2.5	4.9	6.0	7.2	8.5	31 58.34	25.86	35.99	16 30 56.49	12.15
	Weisse 637	47	12.0	14.0	15.2	25.0	26.0	27.3	28.5	29.5	38.9	41.1	42.0	34 27.23	— 0.16	36.00	16 33 51.07	12.16
	Weisse 758	48	13.9	15.2	16.5	17.7	20.0	..	20.5	22.8	23.9	25.3	26.6	40 50.24	+ 0.10	36.00	16 40 14.34	12.69
	Weisse 760	49	37.3	39.3	40.5	50.1	51.3	52.5	53.7	54.7	4.1	5.4	7.4	40 52.39	— 0.13	36.00	16 40 16.26	12.70
	Weisse 854	50	27.3	29.4	30.4	40.1	41.2	42.3	43.5	44.6	54.0	55.3	57.3	45 42.31	— 0.13	—36.00	16 45 6.18	+ 12.64

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
July	4, 15.7	— 5.22	— 0.060	+ 0.14
	5, 16.7	— 35.28	— 0.030	— 0.16
	6, 14.8	— 35.94	— 0.032	

1. Faint.
7. Faint.
10. Unsteady.
27. Cloudy.

		s.
July 4,	. . .	n. = — 0.20.
5,	. . .	0.20.
6,	9h. to 11h.	0.20.
	15h. to 19h.	— 0.30.

		r.	
July 4, 4h.	Image	0.00.	Clamp east.
	Image west	0.52.	Clamp west.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 6	23 Ophiuchi . . .	1	47.2	49.3	50.5	0.2	1.3	2.5	3.7	4.8	14.2	15.3	16.4	48 2.31	— 0.13	—36.00	16 47 26.18	+ 12.67
Y.	Weisse 913 . . .	2	. .	2.1	3.3	13.1	14.1	15.3	16.5	17.5	26.9	28.2	. .	49 15.22	0.14	36.00	16 48 39.08	12.66
	Weisse 958 . . .	3	. .	. .	. .	2.8	4.0	6.0	21.0	23.3	24.4	25.6	26.9	52 16.75	25.90	36.01	16 51 14.84	12.49
	d Herculis . . .	4	58.5	0.9	2.3	13.7	15.0	16.4	17.8	19.2	30.6	32.2	34.5	57 16.46	— 0.39	36.01	16 56 40.06	8.24
	Lacaille 7160 . .	5	21.7	24.3	25.7	38.3	39.4	40.9	42.5	43.8	56.0	57.6	0.1	3 40.94	+ 0.04	36.01	17 3 4.97	16.11
	O. Arg. S. 16477 .	6	56.3	58.6	59.9	10.4	11.5	12.8	14.2	15.3	25.6	26.9	29.0	6 12.77	— 0.04	36.01	17 5 36.72	14.38
	O. Arg. S. 16497 .	7	57.7	59.9	1.2	11.8	13.0	14.2	15.4	16.6	26.8	28.3	30.6	7 14.14	— 0.04	36.01	17 6 38.09	14.38
	O.Arg.S.16573,(1st*)	8	46.8	48.3	49.6	51.0	53.6	. .	59.5	2.0	3.3	4.7	6.1	10 26.49	+ 0.21	36.02	17 9 50.68	14.41
	O.Arg.S.16573,(2d*)	9	10.3	12.6	13.7	24.4	25.5	26.8	28.2	29.2	39.5	40.8	43.2	10 26.75	— 0.04	36.02	17 9 50.69	14.41
	ξ Ophiuchi . . .	10	. .	. .	. .	47.3	48.8	50.8	6.8	9.3	10.5	11.9	13.3	14 2.34	27.57	36.02	17 12 58.75	14.08
	* — 31° 28′ . .	11	. .	. .	. .	. .	. .	. .	8.1	10.6	12.2	13.7	15.4	19 12.00	— 38.91	36.02	17 17 57.07	15.24
	Jupiter I . . .	12	58.4	59.7	1.0	2.4	4.9	. .	10.1	12.7	13.9	15.2	16.8	23 37.51	+ 0.20	36.02	17 23 1.69	. .
	Jupiter II . . .	13	24.8	26.9	28.3	38.9	40.0	41.1	42.4	43.5	53.8	55.2	57.3	23 41.11	— 0.05	36.02	17 23 5.04	. .
	Moon I	14	7.7	9.8	11.2	21.6	22.8	24.2	25.5	26.5	36.7	38.2	40.4	33 24.06	0.06	36.03	17 32 47.97	. .
	o Serpentis . . .	15	. .	. .	. .	27.2	28.3	29.5	30.7	31.7	41.3	42.6	44.6	34 34.49	5.21	36.03	17 33 53.25	13.26
	Weisse 697 . . .	16	4.7	6.8	8.0	17.7	18.7	19.9	21.1	22.1	31.7	33.0	34.9	37 19.87	0.12	36 03	17 36 43.72	12.78
	Weisse 713 . . .	17	. .	. .	. .	52.3	53.2	54.4	55.6	56.6	6.2	7.6	9.5	37 59.43	5.15	36.03	17 37 18.25	12.77
	μ Herculis . . .	18	32.8	35.2	36.5	47.4	48.6	49.9	51.2	52.4	3.2	4.5	6.7	41 49.86	0.34	36.03	17 41 13.49	8.70
	O. Arg. S. 17270 .	19	. .	. .	. .	33.8	35.0	36.3	37.6	38.6	48.9	50.2	52.4	43 41.60	5.46	36.03	17 43 0.11	14.29
	O. Arg. S. 17320 .	20	. .	. .	. .	52.4	53.5	54.8	56.2	57.4	8.2	9.4	11.7	46 0.45	5.70	36.03	17 45 18.72	14.93
	B. A. C. 6072 . .	21	28.2	30.6	31.9	42.8	43.9	45.3	46.7	47.9	58.6	0.0	2.5	50 45.31	0.02	36.04	17 50 9.25	14.94
	* — 23° 33′ . . .	22	20.4	22.6	23.9	34.4	35.6	36.9	38.2	39.3	49.6	51.0	53.2	53 36.83	0.04	36.04	17 53 0.75	14.35
	O. Arg. S. 17509 .	23	. .	. .	. .	13.1	14.4	16.7	32.9	35.6	36.6	37.9	39.4	55 28.33	27.94	36.04	17 54 24.35	14.28
	* — 22° 51′ . . .	24	. .	. .	. .	0.3	1.7	4.0	20.2	22.6	24.0	25.3	26.6	56 15.59	27.94	36.04	17 55 11.61	14.28
	* — 22° 47′ . . .	25	. .	. .	. .	37.6	38.9	41.1	57.3	59.8	1.1	2.5	3.9	56 52.78	27.92	36.04	17 55 48.82	14.28
	Lalande 33164 . .	26	. .	. .	. .	43.2	44.4	45.6	46.8	47.9	58.0	59.4	1.5	59 50.85	5.40	36.04	17 59 9.41	14.13
	Lalande 33210 . .	27	56.6	58.7	0.0	10.4	11.5	12.7	14.1	15.1	25.3	26.6	28.8	1 12.71	0.05	36.04	18 0 36.62	14.13
	* — 21° 24′ . . .	28	. .	. .	. .	42.4	43.8	46.0	1.9	4.5	5.7	7.0	8.3	1 57.45	27.65	36.04	18 0 53.76	14.13
	μ Sagittarii . . .	29	5.2	7.4	8.7	19.0	20.1	21.5	22.7	23.8	33.9	35.3	37.4	6 21.36	0.06	36.05	18 5 45.25	+ 14.07
	δ Ursæ Minoris . .	†30	31.0	7.0	28.0	9.5	26.0	47.5	8.0	23.5	4.0	25.0	8.5	16 47.13	7.77	36.05		— 106.97
	1 Aquilæ	31	16.2	18.2	19.3	29.2	30.1	31.4	32.6	33.6	43.2	44.5	46.5	28 31.35	— 0.12	36.06	18 27 55.17	+ 12.75
	51 Cephei, S. P. .	32	41.5	0.0	35.5	15.0	54.0	28.0	4.0	42.5	23.5	58.0	19.0	36 29.18	+ 9.54	36.06	6 36 2,66	+ 161.12
Tr.	Venus II. . . .	33	24.9	27.0	28.3	38.2	39.3	40.6	41.8	42.9	52.6	54.0	55.9	55 40.50	— 0.23	36.18	3 55 4.09	— 0.95
	β Orionis	34	25.1	27.1	28.2	37.9	39.0	40.1	41.3	42.4	51.9	53.1	55.2	8 40.12	0.13	36.22	5 8 3.77	+ 13.67
	α Orionis	35	14.1	16.1	17.3	26.9	28.	29.1	30.4	31.5	41.0	42.4	44.4	48 29.21	0.19	36.25	5 47 52.77	15.33
7	Sun I	36	31.7	33.7	34.9	45.6	46.7	48.0	49.3	50.4	0.6	2.0	4.1	6 47.91	0.27	36.30	7 6 11.34	. .
	Sun II	37	48.6	50.5	52.1	2.5	3.6	4.9	6.1	7.3	17.6	19.1	21.2	9 4.86	0.27	36.30	7 8 28.29	. .
	α Canis Minoris . .	38	. .	. .	. .	. .	. .	. .	21.5	23.6	25.0	26.1	27.5	33 24.74	33.53	36.31	7 32 14.90	15.01
	Mercury I . . .	39	. .	. .	. .	11.2	13.0	. .	31.3	33.7	35.2	36.5	38.0	39 28.41	30.11	36.32	7 38 21.98	0.18
	α Leonis	40	33.1	35.2	36.5	46.0	47.2	48.5	49.7	50.6	0.5	1.8	3.9	1 48.46	0.21	36.41	10 1 11.84	14.90
	γ Leonis	41	53.2	55.3	56.7	6.9	8.0	9.3	10.7	11.6	21.8	23.2	25.3	13 9.26	0.25	36.42	10 12 32.59	15.49
	κ Ophiuchi . . .	42	41.4	43.5	44.7	54.5	55.5	56.8	58.0	59.0	8.5	9.8	11.8	51 56.68	0.22	36.67	16 51 19.79	+ 11.08
	ε Ursæ Minoris . .	43	. .	. .	. .	22.0	31.0	40.0	49.0	56.0	. .	. .	. .	0 39.60	3.88	36.67		— 35.20
	α Herculis	44	54.0	56.2	57.3	7.2	8.3	9.6	10.8	11.9	21.4	22.8	24.9	9 9.49	— 0.25	36.68	17 8 32.56	+ 10.59
	Jupiter I . . .	45	31.1	32.5	33.8	35.2	37.9	. .	43.0	45.6	46.8	48.2	49.6	23 10.37	+ 0.21	36.69	17 22 33.89	. .
	Jupiter II . . .	46	57.9	0.0	1.3	11.7	12.8	14.1	. .	16.6	26.6	28.0	30.3	23 13.93	+ 0.10	36.69	17 22 37.34	. .
	α Ophiuchi . . .	47	4.7	6.8	8.1	17.9	19.0	20.1	21.4	22.4	32.2	33.5	35.4	29 20.14	— 0.24	36.69	17 28 43.21	10.75
	μ Sagittarii . . .	48	5.8	8.1	9.4	19.7	20.9	22.1	23.4	24.5	34.5	36.0	38.0	6 22.04	0.05	36.72	18 5 45.27	+ 14.07
	δ Ursæ Minoris . .	49	33.0	7.0	27.0	10.0	28.0	47.0	9.0	25.0	5.0	26.0	0.0	16 46.97	8.10	36.72		— 106.80
	1 Aquilæ	50	16.8	19.0	20.1	30.0	31.0	32.2	33.4	34.4	43.9	45.2	47.2	28 32.11	— 0.12	—36.73	18 27 55.26	+ 12.74

30. Rather unsteady.

July 6–7, 3h. to 11h. n. = — 0.22.
7, 16h. to 2h. — 0.32.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
July 7, h. 15.3	s. — 36.61	s. — 0.038	s. — 0.16

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 7	Moon I	1	15.2	17.4	18.6	29.0	30.2	31.5	32.8	34.1	44.2	45.6	47.7	31 31.47	— 0.06	—36.73	18 30 54.68	. .
Tr.	51 Cephei, S. P.	2	. .	. .	. .	20.5	57.5	33.0	6.0	44.5	. .	. .	. .	36 32.30	+ 10.91	36.74	6 36 6.47	+ 161.13
	σ Sagittarii	3	17.6	19.9	21.2	32.0	33.2	34.5	35.8	37.0	47.5	48.9	51.0	47 34.42	— 0.02	36.74	18 46 57.66	14.62
	ζ Aquilæ	4	37.1	39.2	40.5	50.3	51.5	52.7	54.0	55.0	4.7	5.9	8.0	59 52.63	0.24	36.75	18 59 15.64	10.46
	β Ceti	5	11.9	14.0	15.3	25.5	26.6	27.8	29.1	30.1	40.1	41.4	43.5	37 27.76	0.06	36.96	0 36 50.74	13.06
	ε Piscium	6	20.5	22.6	23.7	33.5	34.5	35.7	37.0	37.9	47.4	48.8	50.7	56 35.66	0.20	36.97	0 55 58.49	13.32
	Polaris	7	. .	. .	. .	40.0	22.0	10.0	57.0	42.0	. .	. .	. .	11 10.20	21.33	36.99		. .
8	Sun I	8	38.3	40.5	41.6	52.1	53.1	54.5	55.8	57.0	7.4	8.8	10.7	10 54.53	0.31	37.21	7 10 17.01	. .
	Sun II	9	55.4	57.5	58.8	9.2	10.3	11.6	12.8	14.1	24.2	25.6	27.7	13 11.56	0.31	37.21	7 12 34.04	. .
Y. 11	Sun I	10	. .	57.8	59.0	9.5	10.6	11.9	13.2	14.3	24.4	25.8	. .	23 11.83	0.26	38.91	7 22 32.66	. .
	Sun II	11	. .	. .	. .	25.9	27.0	28.3	29.6	30.7	41.0	42.3	44.6	25 33.68	5.64	38.91	7 24 49.13	. .
	α Hydræ	12	22.2	24.1	25.3	35.0	36.0	37.2	38.5	39.5	49.2	50.4	52.5	21 37.26	0.11	38.98		13.79
12	α Tauri	13	36.3	38.5	39.7	49.6	50.8	52.1	53.3	54.4	4.1	5.4	7.4	28 51.96	0.21	39.67	4 28 12.08	15.74
E.	β Orionis	14	28.5	30.7	32.1	41.7	42.9	44.0	45.2	46.3	55.5	56.9	59.0	8 43.89	0.11	39.78	5 8 4.00	13.55
	β Tauri	15	9.9	12.3	13.5	24.5	25.6	27.0	28.4	29.7	40.5	41.6	44.0	18 27.00	0.28	39.79	5 17 46.93	17.55
	δ Orionis	16	32.4	34.5	35.7	45.5	46.5	47.6	48.6	49.6	59.1	0.4	2.7	25 47.51	0.14	39.79	5 25 7.58	14.36
	ε Orionis	17	47.7	49.7	51.0	0.4	1.4	. .	4.0	5.0	14.5	15.5	17.4	30 2.66	0.13	39.80	5 29 22.73	14.28
Y.	α Orionis	†18	. .	. .	. .	. .	. .	. .	2.8	5.2	6.5	7.6	8.9	49 6.20	33.64	39.72	5 47 52.84	15.21
	μ Geminorum	19	12.4	14.4	15.6	26.2	27.4	28.7	30.0	31.1	41.4	42.8	44.8	14 28.62	0.24	39.73	6 14 48.65	17.04
13	Sun I	20	18.2	19.3	20.7	21.9	22.9	. .	52.6	55.2	56.5	57.9	59.3	31 38.45	18.17	39.78	7 30 40.50	. .
	Sun II	21	20.5	22.7	23.8	34.4	35.5	36.8	38.1	39.3	49.3	50.7	52.7	33 36.71	0.23	39.78	7 32 56.70	. .
	Mercury I	22	22.0	24.2	25.4	35.9	37.1	38.3	39.5	40.7	50.8	52.2	54.5	29 38.24	0.22	39.81	8 28 58.21	0.19
	δ Leonis	23	20.7	23.0	24.2	34.5	35.5	36.9	38.1	39.3	49.4	50.8	53.0	7 36.85	0.23	39.90	11 6 56.72	14.77
	β Leonis	24	36.3	38.5	39.7	49.6	50.7	52.0	53.3	54.4	3.9	5.3	7.5	42 51.93	— 0.20	39.92	11 42 11.81	13.90
	Polaris, S. P.	25	. .	. .	. .	. .	. .	. .	31.0	56.5	8.0	16.5	23.5	48 15.10	+22 42.48	39.96	1 10 17.62	60.31
	B. A. C. 5743	26	45.4	47.7	49.0	59.5	0.7	1.9	3.2	4.3	14.6	16.0	18.1	57 1.86	— 0.05	40.11	16 56 21.70	14.32
	Lalande 31055	27	. .	. .	. .	56.9	58.3	0.3	15.3	17.5	18.8	20.0	21.4	59 11.06	25.90	40.11	16 58 5.05	12.56
	Lalande 31166	28	. .	. .	. .	38.1	39.3	40.5	41.8	42.8	52.9	54.1	56.4	2 45.74	— 5.38	40.11	17 2 0.25	14.05
	Lalande 31199	29	31.4	33.7	34.9	45.2	46.4	47.6	. .	50.0	0.0	1.4	3.6	3 47.42	+ 0.08	40.11	17 3 7.39	14.05
	O. Arg. S. 16497	30	1.6	4.0	. .	15.8	17.0	18.2	19.5	20.7	. .	32.3	34.5	7 18.18	— 0.05	40.11	17 6 38.02	14.40
	* — 23° 55′	31	20.1	22.3	23.6	34.2	35.4	36.6	37.9	39.0	49.4	50.8	52.9	10 36.56	0.04	40.12	17 9 56.40	14.40
	Weisse 186	32	17.9	20.1	21.1	30.6	31.8	32.9	34.2	35.3	44.7	45.9	48.0	12 32.95	0.12	40.12	17 11 52.71	12.46
	Weisse 249	33	. .	47.3	48.4	58.2	59.3	0.4	1.6	2.7	12.1	13.4	. .	16 0.38	0.11	40.12	17 15 20.15	12.50
	b Ophiuchi	34	49.3	50.5	51.8	53.2	54.3	. .	24.4	27.0	28.4	29.7	31.1	19 9.97	18.24	40.12	17 18 11.61	14.40
	Jupiter I	35	22.5	24.7	26.0	. .	. .	. .	. .	. .	51.4	53.0	55.0	20 38.77	0.01	40.12	17 19 58.64	.
	Jupiter II	36	. .	. .	. .	39.8	40.9	42.3	43.5	44.7	. .	. .	. .	20 42.24	0.10	40.12	17 20 2.02	.
	c^2 Ophiuchi	37	38.5	40.7	42.0	52.6	53.7	54.9	56.3	57.4	7.7	9.1	11.5	23 54.94	0.04	40.12	17 23 14.78	14.39
	* — 31° 13′	38	23.4	25.7	27.1	. .	39.5	41.0	42.3	43.5	54.5	56.0	58.4	26 41.14	0.27	40.12	17 26 0.75	15.22
	* — 28° 51′	39	17.0	19.4	20.7	31.8	33.0	34.3	35.5	36.7	47.6	48.9	51.3	32 34.20	0.03	40.13	17 31 54.04	14.95
	O. Arg. S. 17105	40	15.0	17.4	18.7	29.7	30.8	32.1	33.5	34.7	45.4	46.6	49.0	35 32.08	0.03	40.13	17 34 51.92	14.83
3	Sagittarii	41	31.2	33.4	34.8	45.7	46.8	48.1	49.5	50.7	1.4	2.8	5.0	39 48.13	0.03	40.13	17 39 7.97	14.82
	O. Arg. S. 17270	42	24.1	26.3	27.6	38.1	39.1	40.4	41.6	42.8	53.1	54.4	56.6	43 40.37	0.05	40.14	17 43 0.18	14.28
	* — 34° 35′	43	. .	. .	. .	47.6	49.1	51.3	9.5	12.2	13.6	15.1	17.0	47 4.43	31.22	40.14	17 45 53.07	15.65
4	Sagittarii	44	. .	3.1	4.4	14.8	16.0	17.2	18.6	19.7	30.1	31.3	. .	52 17.24	0.05	40.14	17 51 37.05	14.37
	* — 23° 33′	45	24.6	26.8	28.0	38.5	39.6	40.9	42.3	43.4	53.7	55.1	57.2	53 40.92	0.04	40.14	17 53 0.74	14.34
	O. Arg. S. 17509	46	. .	. .	. .	. .	. .	. .	36.9	39.7	41.0	42.3	43.7	55 40.72	36.06	40.14	17 54 24.52	14.27
	* — 22° 51′	47	. .	. .	. .	4.6	5.9	8.1	24.3	26.7	28.1	29.5	30.8	56 19.75	27.94	40.14	17 55 11.67	14.27
	* — 22° 49′	48	. .	. .	. .	41.7	43.2	45.3	1.5	4.0	5.4	6.7	8.1	56 56.99	— 27.93	—40.14	17 55 48.92	+ 14.26

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s
July 11, 9.3	— 38.98	— 0.035	— 0.14
13, 15.0	— 40.04	— 0.035	— 0.13

18. Cloudy.

July 13. P. S. P., P., and P. S. P., n. = — 0.22. s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 13	* — 22° 55′	1	58.8	0.7	2.2	..	..	..	..	..	27.6	29.1	31.3	0 14.95	— 0.01	—40.14	17 59 34.80	+ 14.27
Y.	* — 22° 54′	2	6.9	9.1	10.3	20.7	21.9	23.3	24.5	25.5	35.9	37.2	39.4	0 23.16	0.05	40.14	17 59 42.97	14.27
	μ Sagittarii	3	9.4	11.7	12.9	23.2	24.3	25.5	26.7	27.9	38.1	39.4	41.5	6 25.51	0.05	40.15	18 5 45.31	14.05
	O. Arg. S. 17955	4	0.9	3.1	4.3	14.5	15.6	16.8	18.1	19.3	29.4	30.8	32.8	9 16.87	0.06	40.15	18 8 36.66	+ 14.00
	δ Ursæ Minoris	5	33.0	8.5	28.0	10.5	28.0	49.0	8.5	26.0	7.5	28.0	59.5	16 47.86	5.91	40.15	18 16 1.80	— 105.86
	O. Arg. S. 18317	6	35.9	38.1	39.4	50.0	51.1	52.4	53.6	54.8	5.0	6.4	8.6	23 52.30	0.04	40.16	18 23 12.10	+ 14.29
	1 Aquilæ	7	20.2	22.4	23.6	33.2	34.4	35.6	36.8	37.8	47.4	48.7	50.8	28 35.54	0.10	40.16	18 27 55.28	12.71
	51 Cephei, S. P.	8	..	..	..	..	..	..	0.0	21.0	42.0	..	49.5	39 13.12	2 29.36	40.17	6 36 3.59	160.03
	κ Piscium	9	28.9	31.2	32.2	41.8	42.8	43.9	45.1	46.2	55.7	57.0	58.9	20 43 97	0.13	40.33	23 20 3.51	12.54
	B. A. C. 8184	10	..	..	..	28.3	29.5	31.6	46.5	48.9	50.0	51.2	52.5	23 42.31	25.92	40.33	23 22 36.06	+ 12.68
	B. A. C. 8213	11	..	..	..	18.5	36.5	55.0	15.5	33.0	..	..	..	28 55.70	6.61	40.34	23 28 8.75	— 20.40
	* — 20° 30′	12	..	..	..	25.1	26.3	27.5	28.8	29.9	40.0	41.2	43.3	35 32.76	5.38	40.34	23 34 47.04	+ 13.02
	19 Piscium	13	57.9	59.9	1.1	10.7	11.7	12.9	14.1	15.1	24.5	25.9	27.8	40 12.87	0.14	40.34	23 39 32.39	12.58
	Lalande 46609	14	..	..	..	37.6	38.8	41.0	55.9	58.3	59.5	0.8	2.0	41 51.74	25.92	40.34	23 40 45.48	12.73
	Weisse 848	15	17.2	19.4	20.4	30.2	31.2	32.3	33.6	34.6	44.3	45.2	47.4	42 32.35	0.11	40.34	23 41 51.90	12.74
	26 Piscium	16	41.5	43.5	44.7	54.5	55.5	56.8	58.0	59.0	8.4	9.8	11.7	48 56.67	0.16	40.35	23 48 16.16	12.58
	ω Piscium	17	50.8	52.9	54.9	3.8	4.8	6.1	7.2	8.2	17.7	19.0	21.0	53 6.04	0.15	40.35	23 52 5.54	12.66
	c^2 Piscium	18	3.7	5.8	6.9	16.8	17.8	19.0	20.2	21.1	30.8	32.1	33.9	56 18.92	0.16	40.35	23 55 38.41	12.62
	γ Pegasi	19	44.9	47.1	48.3	58.1	59.2	0.5	1.7	2.8	12.6	13.7	15.9	7 0.44	0.19	40.36	0 6 19.89	12.64
	d Piscium	20	7.1	9.1	10.2	20.1	21.2	22.3	23.5	24.5	34.2	35.5	37.5	14 22.29	0.16	40.36	0 13 41.77	12.78
	Moon II	21	3.3	4.6	5.9	7.3	9.8	..	11.3	13.8	15.0	16.2	17.6	17 40.60	0.03	40.36	0 17 0.21	..
		22	25.3	27.4	28.7	38.6	39.6	40.7	41.9	43.0	52.8	53.9	56.2					
	Polaris	†23	..	..	..	44.0	27.0	14.0	3.0	44.0	..	..	..	11 14.40	16.06	40.40	1 10 17.94	+ 59.89
Tr.	Venus II	24	..	..	..	..	..	..	9.4	11.7	13.1	14.4	15.8	22 12.88	35.18	40.47	4 20 57.23	— 0.87
	α Tauri	25	37.1	39.2	40.5	50.6	51.5	52.8	..	55.1	5.1	6.4	8.3	28 52.66	0.07	40.48	4 28 12.11	+ 15.71
Y.	β Orionis	26	29.3	31.3	32.5	42.2	43.4	44.6	45.7	46.9	56.2	57.6	59.5	8 44.47	0.10	..	..	13.53
Tr.	α Orionis	27	18.3	20.7	21.7	31.4	32.4	33.5	34.8	35.8	45.3	46.6	48.6	48 33.55	0.16	40.53	5 47 52.86	15.19
14	Sun I	†28	8.6	10.7	11.9	22.3	23.3	24.4	25.7	26.8	37.2	38.6	40.8	35 24.57	0.23	40.63	7 34 43.71	..
	Sun II	29	24.8	27.0	28.4	38.5	39.5	40.7	42.2	43.4	53.5	54.6	57.2	37 40.89	0.23	40.63	7 37 0.03	..
	Mercury I	30	10.7	12.9	14.4	24.5	25.4	26.8	28.2	29.4	39.3	40.8	42.9	37 26.85	0.22	40.69	8 36 45.94	0.19
	α Leonis	31	37.4	39.5	40.6	50.7	51.7	52.9	54.1	55.1	4.8	6.2	8.2	1 52.84	0.18	40.76	10 1 11.90	14.93
	γ Leonis	32	..	59.7	1.0	11.3	12.4	13.6	14.9	16.1	26.0	27.4	29.5	13 15.19	— 1.82	40.77	10 12 32.60	15.52
	η Virginis	33	27.5	29.5	30.7	40.4	41.4	42.6	43.8	44.9	54.4	55.6	..	13 41.08	+ 1.36	..	..	13.58
	Polaris, S. P.	34	..	..	..	..	..	..	..	..	9.0	58.0	33.0	49 13.33	21 46.14	40.89	1 10 18.58	59.44
	Lacaille 7163	35	24.1	26.7	28.1	40.3	41.5	43.1	44.6	45.9	57.8	59.5	2.0	4 43.06	+ 0.01	41.11	17 4 1.96	16.02
	α Herculis	36	58.5	0.4	1.7	11.6	12.7	13.9	15.2	16.2	26.1	27.3	29.3	9 13.90	— 0.19	41.11	17 9 32.60	10.62
	Weisse 186	37	18.9	20.9	22.2	31.7	32.7	34.1	35.1	36.1	45.6	46.8	48.8	12 33.90	— 0.15	41.11	17 11 52.64	12.47
	Jupiter I	38	36.1	37.5	39.0	40.3	42.9	..	47.9	50.5	51.9	..	54.7	20 11.20	+ 4.39	41.12	17 19 34.47	..
	Jupiter II	39	..	4.9	6.2	16.7	17.8	19.2	20.5	21.6	31.7	33.2	..	20 19.09	— 0.06	41.12	17 19 37.91	..
	* — 38° 33′	40	..	..	..	58.9	0.3	1.7	3.1	4.8	..	..	..	27 1.76	— 0.05	41.13	17 26 20.58	16.16
	B. A. C. 5932	41	41.4	44.0	45.6	57.8	59.3	0.7	2.3	3.6	15.5	17.3	19.7	28 0.65	+ 0.01	41.13	17 27 19.53	16.16
	* — 35° 19′	42	7.1	9.7	11.1	23.0	24.2	25.6	27.2	28.3	39.9	41.4	43.9	42 25.58	— 0.01	41.14	17 41 44.43	15.74
	* — 35° 14′	43	15.9	18.3	19.7	31.6	32.9	34.3	35.7	37.1	48.5	50.2	52.4	43 34.24	0.01	41.14	17 42 53.09	15.73
	B. A. C. 6046	44	..	..	..	11.2	12.4	14.0	15.4	16.7	..	..	..	46 13.94	0.06	41.14	17 45 32.74	15.64
	* — 34° 35′	45	..	..	..	31.6	32.9	34.2	35.6	37.0	..	..	..	46 34.26	0.06	41.14	17 45 53.06	15.64
	* — 34° 37′	46	9.0	11.6	12.9	24.7	25.9	27.2	28.7	30.0	41.3	42.9	45.4	48 27.24	0.01	41.14	17 47 46.09	15.64
	γ^2 Sagittarii	47	35.9	38.4	40.0	50.9	52.1	53.5	55.1	56.1	7.1	8.6	10.8	57 53.50	0.02	41.15	17 57 12.33	15.09
	* — 23° 22′	48	..	..	..	53.4	54.8	56.9	13.2	15.7	17.0	18.2	19.8	4 8.63	28.05	41.16	18 2 59.42	14.31
	* — 21° 6′	49	7.8	9.8	11.3	..	..	..	..	..	36.5	37.9	40.0	6 23.88	— 0.01	—41.16	18 5 42.71	+ 14.06

23. Unsteady.
28. Very unsteady.

s.
July 14, $n.$ = —0.22.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
July 14, 13.1	— 40.91	— 0.050	— 0.13

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction to 1870.0.	
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.	
July 14 Tr.	μ	Sagittarii	1	47.4	48.8	50.3	51.6	54.2	..	..	..	..	..	..	5 50.46	+ 36.00	—41.16	18 5 45.30	+ 14.65	
		* — 21° 6′	2	..	..	..	27.4	28.4	29.7	31.1	32.1	..	..	..	6 29.74	— 0.10	41.16	18 5 48.48	+ 14.06	
	δ	Ursæ Minoris	3	36.7	11.4	31.0	14.5	32.0	51.0	12.0	28.8	9.3	31.5	3.0	16 51.02	5.91	41.17	18 16 3.94	— 105.71	
		B. A. C. 6301	4	1.8	3.7	5.1	15.3	16.4	17.6	18.9	19.9	30.0	31.3	33.4	25 17.58	0.06	41.18	18 24 36.34	+ 13.82	
	1	Aquilæ	5	21.3	23.3	24.5	34.3	35.4	36.6	37.9	38.8	48.3	49.5	51.6	28 36.50	— 0.10	41.18	18 27 55.22	12.71	
	51	Cephei, S. P.	6	..	..	..	23.0	0.0	38.0	12.0	57.0	..	..	..	36 38.00	+ 8.21	41.19	6 36 5.02	159.85	
	γ	Pegasi	7	46.0	48.1	49.3	59.2	0.4	1.6	2.8	3.8	13.4	14.8	16.8	7 1.47	— 0.19	41.28		12.61	
Y. 17	β	Leonis	8	38.2	40.4	41.5	51.6	52.7	53.9	55.1	56.2	6.0	7.3	9.4	42 53.85	0.19	41.96		13.94	
	η	Virginis	9	28.7	30.8	32.0	41.6	42.7	43.9	45.0	46.0	55.6	56.8	58.9	13 43.82	— 0.11	41.98		13.61	
		Polaris, S. P.	10	..	..	..	..	..	..	36.0	2.0	14.0	23.0	29.0	48 20.80	+22 43.27	41.99	1 10 22.08	56.57	
Tr.		Jupiter I	11	28.9	30.3	31.8	33.2	35.8	..	..	..	..	..	..	18 32.00	+ 36.25	42.29	17 18 25.96	. .	
		Jupiter II	12	..	57.6	58.9	9.4	10.6	11.9	13.2	14.3	24.5	26.0	..	19 11.82	— 0.24	42.29	17 18 29.29	. .	
		Weisse 508	13	16.4	18.4	19.7	29.7	30.6	31.8	33.0	34.1	43.8	45.1	47.1	28 31.79	0.17	42.30	17 27 49.32	10.75	
	α	Ophiuchi	14	10.2	12.4	13.6	23.5	24.5	25.8	27.0	28.0	37.6	39.0	41.0	29 25.69	— 0.17	42.30	17 28 43.22	10.77	
		O. Arg. S. 17281	†15	2.8	4.9	6.3	..	..	..	..	..	..	32.5	33.8	36.1	44 19.40	+ 0.04	42.30	17 43 37.14	14.60
		B. A. C. 6081	16	28.4	30.5	31.8	42.0	43.1	44.5	45.7	46.9	56.8	58.3	0.3	52 44.39	— 0.02	42.31	17 52 2.06	14.00	
		* — 21° 30′	17	3.0	5.3	6.6	16.9	18.1	19.4	20.7	21.8	31.8	33.3	35.3	55 19.29	0.02	42.31	17 54 36.96	14.12	
		* — 21° 27′	18	34.7	36.8	38.1	48.3	49.5	50.8	52.1	53.2	3.5	4.8	6.8	58 50.78	0.02	42.31	17 58 8.45	14.11	
		Lalande 33147	19	15.3	17.3	18.5	28.8	29.9	31.4	32.6	33.7	43.9	45.2	47.5	59 31.28	0.02	42.31	17 58 48.95	14.11	
		Lalande 33164	20	..	..	..	49.4	50.6	52.0	53.2	54.2	4.4	5.7	7.8	59 57.16	5.38	42.31	17 59 9.47	14.11	
		O. Arg. S. 17809	21	46.1	48.4	49.6	59.8	1.0	2.2	3.6	4.6	14.5	15.9	18.2	5 2.17	— 0.03	42.31	18 4 19.83	13.89	
		O. Arg. S. 17892	22	33.6	35.8	37.2	47.2	48.3	49.6	50.9	51.8	..	..	..	7 44.30	+ 5.21	42.31	18 7 7.20	13.83	
		O. Arg. S. 17905	23	..	..	..	3.6	4.7	5.9	7.2	8.3	..	..	..	8 5.94	— 0.08	42.31	18 7 23.55	13.83	
		O. Arg. S. 17916	24	..	..	..	29.6	30.9	32.9	48.8	51.3	52.6	53.8	55.2	8 44.39	27.20	42.31	18 7 34.88	13.83	
		* — 18° 58′	25	..	..	..	..	..	..	7.3	9.7	11.0	12.4	13.8	9 10.84	35.12	42.31	18 7 53.41	13.83	
		* — 18° 58′	26	..	..	..	27.1	28.5	30.7	46.4	48.7	50.1	51.5	52.8	9 41.98	27.20	42.31	18 8 32.47	13.83	
		O. Arg. S. 17965	27	..	..	..	0.1	1.5	3.5	19.3	21.7	23.0	24.4	25.7	10 14.90	27.20	42.31	18 9 5.39	+ 13.83	
	δ	Ursæ Minoris	28	37.5	11.7	31.0	14.5	33.0	53.0	12.0	29.5	9.0	30.0	5.0	16 51.47	6.25	42.31	18 16 2.91	— 105.18	
	1	Aquilæ	29	22.4	24.5	25.6	35.4	36.5	37.6	38.9	39.9	49.4	50.8	52.7	28 37.61	— 0.07	42.32	18 27 55.22	+ 12.71	
	26	Sagittarii	30	7.4	9.4	10.8	21.4	22.6	23.8	25.2	26.2	36.6	38.1	40.1	34 23.78	0.00	42.32	18 33 41.46	14.31	
		* — 6° 9′	31	33.8	..	36.4	37.6	40.2	..	40.4	42.7	43.9	..	46.6	42 10.20	+ 0.13	42.32	18 41 28.01	12.45	
		Weisse 1020	32	56.5	..	59.8	9.4	10.5	11.7	12.9	13.9	23.3	..	26.5	42 11.61	— 0.08	42.32	18 41 29.21	12.45	
		Lalande 34984	33	58.5	0.4	1.7	11.4	12.5	13.6	14.8	15.8	25.2	26.7	28.5	43 13.56	0.08	42.32	18 42 31.16	12.45	
		Weisse 1219	34	11.6	13.7	14.9	24.7	25.9	27.0	28.2	29.2	38.9	40.2	42.3	49 26.96	— 0.06	42.33	18 48 44.57	12.40	
		* — 7° 30′	35	43.0	44.4	45.6	46.9	49.2	..	50.0	52.3	53.5	54.7	56.1	56 19.57	+ 0.13	42.33	18 55 37.39	12.59	
		Weisse 1398	36	16.4	18.5	19.7	29.5	30.6	31.6	32.9	33.9	43.4	44.6	46.8	56 31.63	— 0.08	42.33	18 55 49.22	12.59	
		Weisse 1412	37	..	..	..	9.5	10.8	12.8	27.8	30.2	31.3	32.5	33.8	57 23.59	26.01	42.33	18 56 15.25	12.60	
	ζ	Aquilæ	38	42.6	44.8	46.0	55.8	56.9	58.1	59.4	0.5	10.1	11.5	13.5	59 58.11	0.18	42.33	18 59 15.60	10.42	
	ϵ	Piscium	39	26.4	28.4	29.6	39.2	40.3	41.5	42.7	43.8	53.3	54.5	56.5	56 41.47	0.14	42.45	0 55 58.88	13.01	
		Polaris	40	..	..	..	51.0	34.0	22.0	10.0	51.0	..	..	..	11 21.60	16.87	42.46	1 10 22.27	56.67	
	β^1	Ceti	41	46.1	48.1	49.4	59.1	0.1	1.4	2.6	3.6	13.2	14.5	16.5	18 1.33	0.07	42.46	1 17 18.80	12.83	
	o	Piscium	42	45.9	47.9	49.1	58.8	59.8	1.0	2.2	3.3	12.8	14.1	16.2	39 1.01	0.15	42.47	1 38 18.39	13.48	
	β	Arietis	43	40.3	42.6	43.7	54.1	55.2	56.4	57.8	58.9	8.9	10.2	12.4	48 56.41	— 0.21	42.47	1 48 13.73	14.02	
	α	Arietis	44	3.0	5.2	6.4	16.9	18.0	19.3	20.6	..	31.9	33.3	35.5	0 19.01	+ 0.01	42.48	1 59 36.54	14.37	
	η	Tauri	45	56.0	58.3	59.5	10.1	11.3	12.6	13.8	14.9	25.3	26.8	28.8	40 12.49	— 0.23	42.51	3 39 29.75	15.82	
		Moon II	46	5.2	7.4	8.7	19.1	20.2	21.4	22.7	23.8	34.0	35.4	37.5	9 21.40	0.20	42.52	4 9 38.68	. .	
	γ	Tauri	47	35.4	37.7	38.9	..	..	..	..	..	3.5	4.6	6.6	12 51.12	0.15	42.52	4 12 8.45	15.41	
Y.	α	Tauri	48	..	..	..	..	..	..	25.8	28.1	29.5	30.7	32.2	29 29.26	34.71	42.35	4 28 12.20	+ 15.61	
		Venus II	†49	4.9	7.1	8.4	18.6	19.8	21.0	22.2	23.3	33.3	34.7	36.7	37 20.91	— 0.15	—42.35	4 36 38.41	— 0.84	

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 17, 12.0	— 41.97	— 0.030	— 0.11
23.8	— 42.43	— 0.021	

15. Through clouds.
49. Unsteady.

July 17, n. = s. — 0.26.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 17	δ Orionis	†1	35.0	37.1	38.3	47.9	49.1	50.2	51.3	52.4	1.7	3.0	5.1	25 50.10	— 0.11	—42.39	5 25 7.60	+ 14.25
Y.	ϵ Orionis	2	50.4	52.4	53.5	3.3	4.5	5.4	6.6	7.6	17.1	18.3	20.4	30 5.39	0.11	42.39	5 29 22.89	14.18
	α Orionis	3	20.2	22.4	23.4	33.4	34.4	35.7	36.9	37.9	47.4	48.5	50.6	48 35.53	0.13	42.41	5 47 52.99	15.11
	α Canis Majoris	4	39.4	41.5	42.7	52.9	54.0	55.3	56.4	57.5	7.1	8.4	10.7	39 55.08	0.08	42.45	6 39 12.55	12.65
18	Sun I	5	19.1	21.1	22.3	32.9	34.0	35.2	36.4	37.6	47.7	19.1	51.4	51 35.16	0.16	42.50	7 50 52.50	. .
	Sun II	6	34.6	36.8	38.0	48.1	49.3	50.6	51.8	52.8	3.4	4.7	6.7	53 50.62	0.16	42.50	7 53 7.96	. .
	Mercury I	7	32.2	34.5	35.8	45.8	47.1	48.3	49.5	50.5	0.5	1.9	4.0	6 48.19	0.15	42.56	9 6 5.48	0.20
	α Leonis	8	39.2	41.3	42.4	52.4	53.5	54.7	55.9	56.9	6.5	7.8	9.9	1 54.59	0.14	42.60	10 1 11.85	14.94
	γ Leonis	9	59.4	1.5	2.9	. .	14.1	15.4	16.8	. .	27.9	29.3	31.1	13 15.39	0.15	42.60	10 12 32.63	15.54
	δ Leonis	10	23.4	25.6	26.8	37.1	38.4	39.5	40.8	42.0	52.0	53.5	55.7	7 39.53	0.16	42.65	11 6 56.72	14.81
Tr.	η Virginis	11	29.6	31.7	32.8	42.5	43.5	44.7	46.0	46.9	56.4	57.7	59.6	13 44.67	— 0.11	42.87		13.62
	Polaris, S. P.	12	. .	. .	. .	. .	. .	. .	41.5	7.5	19.0	30.0	33.5	48 26.30	+22 19.36	42.88		+ 55.58
	Venus II	13	6.8	8.8	10.2	20.2	21.5	22.7	23.9	25.2	35.0	36.3	38.4	41 22.64	— 0.15	43.24	4 40 39.25	— 0.83
	α Orionis	†14	21.1	23.3	24.5	34.3	35.3	36.5	37.7	38.7	48.2	49.5	51.5	48 36.42	0.13	43.29	5 47 53.00	+ 15.09
19	Sun I	15	20.9	23.0	24.4	34.7	35.8	37.1	38.4	39.4	49.6	51.0	53.0	55 37.01	0.16	43.34	7 54 53.51	. .
	Sun II	16	36.1	38.2	39.5	49.8	50.9	52.2	53.6	54.8	4.8	6.1	8.3	57 52.21	0.16	43.34	7 57 8.71	. .
	α Lyræ	17	50.0	52.5	53.9	6.2	7.7	9.1	10.7	12.0	24.1	25.7	28.3	33 9.11	0.23	43.59	18 32 25.29	6.99
	β Arietis	18	41.6	43.8	45.1	55.3	56.5	57.7	59.0	0.0	10.1	11.4	13.6	47 57.65	0.16	43.77	1 47 13.72	+ 13.96
Y.	Venus II	19	10.2	12.2	13.5	23.7	24.7	26.0	27.4	28.4	38.5	39.8	41.8	45 26.02	0.15	43.61	4 44 42.26	— 0.82
	β Orionis	20	32.3	34.5	35.7	45.5	46.6	47.8	49.0	50.0	59.6	0.9	2.8	8 47.70	0.10	43.63	5 8 3.97	+ 13.39
	β Tauri	21	13.8	16.2	17.6	28.6	29.7	31.0	32.5	33.6	44.4	45.8	48.0	18 31.02	— 0.19	43.64	5 17 47.19	17.37
20	Sun I	22	21.4	23.4	24.9	34.9	36.0	37.4	38.6	39.8	50.2	51.5	53.5	59 37.42	+ 0.02	43.73	7 58 53.71	. .
	Sun II	23	36.5	38.8	40.0	50.1	51.2	52.5	53.7	54.9	5.3	6.5	8.6	1 52.55	0.02	43.73	8 1 8.84	. .
	Mercury I	24	. .	10.6	11.8	21.8	23.0	24.3	25.6	26.7	36.7	37.9	. .	20 24.27	0.04	43.78	9 19 40.53	0.20
	α Leonis	25	41.3	43.3	44.5	54.2	55.3	56.5	57.8	58.8	8.7	9.9	12.0	1 56.57	0.04	43.81	10 1 12.80	14.94
	γ Leonis	26	0.4	2.6	3.8	14.1	15.1	16.4	17.7	18.8	29.1	30.2	32.4	13 16.42	0.02	43.81	10 12 32.63	15.54
	δ Leonis	27	24.4	26.6	27.9	38.1	39.2	40.5	41.8	42.9	53.2	54.4	56.7	7 40.52	0.02	43.85	11 6 56.69	14.83
Tr.	β Leonis	28	40.1	42.2	43.6	53.2	54.3	55.5	56.7	57.8	7.9	9.0	10.1	42 55.49	+ 0.04	43.92		13.97
	β Corvi	29	. .	. .	. .	1.4	2.6	3.8	5.0	6.2	16.6	17.9	20.2	28 9.21	— 5.21	43.94		13.65
	Polaris, S. P.	30	. .	. .	. .	. .	. .	. .	38.0	2.0	9.0	18.0	24.0	48 18.20	+22 50.56	43.96	1 10 24.80	53.71
Y.	O. Arg. S. 16644	31	. .	. .	. .	3.8	5.2	7.4	24.3	27.0	28.5	29.8	31.3	14 19.66	— 28.86	44.07	17 13 6.73	14.69
	Jupiter I	32	28.4	30.0	31.3	32.6	35.1	. .	40.1	42.8	44.0	45.5	46.9	18 7.67	— 0.09	44.07	17 17 23.51	. .
	Jupiter II	33	54.6	56.6	58.0	8.1	9.4	10.7	11.9	13.1	23.6	24.7	27.0	18 10.70	+ 0.16	44.07	17 17 26.79	. .
	Lacaille 7345	34	23.6	25.9	27.4	38.8	39.8	41.3	42.7	43.9	55.3	56.7	59.1	26 41.32	0.20	44.07	17 25 57.45	15.39
	α Ophiuchi	35	12.0	14.1	15.3	24.9	26.0	27.2	28.5	29.5	39.3	40.6	42.8	29 27.29	0.04	44.08	17 28 43.25	10.79
	* — 32° 9′	36	43.6	45.8	47.3	58.6	59.6	1.2	2.5	3.8	15.2	16.4	18.7	32 1.16	0.20	44.08	17 31 17.28	15.35
	Weisse 697	37	. .	. .	. .	25.4	26.5	27.7	28.9	30.0	. .	. .	. .	37 27.70	0.15	44.08	17 36 43.77	12.79
	Weisse 755	38	. .	46.2	47.4	56.8	57.9	59.1	0.3	1.3	11.2	12.3	. .	39 59.17	0.11	44.08	17 39 15.20	12.79
	Dorpat 2245	†39	41.8	43.7	45.0	54.4	55.6	56.7	57.9	58.9	8.6	9.8	11.8	50 56.74	+ 0.08	44.09	17 50 12.73	+ 11.96
	δ Ursæ Minoris	40	34.5	7.0	29.5	9.0	26.0	47.5	6.0	25.0	7.5	26.5	2.5	16 47.36	— 1.52	44.10	18 16 1.74	— 104.47
	51 Cephei, S. P.	41	. .	15.5	48.0	33.5	13.0	47.5	23.0	2.0	40.0	15.5	. .	36 46.44	+ 1.66	44.12	6 36 3.98	+ 158.45
	Weisse 1285	42	59.2	1.3	2.6	12.2	13.2	14.4	15.6	16.8	26.7	27.9	29.9	52 14.53	0.04	44.13	18 51 30.44	13.11
	Weisse 1314	43	8.5	10.5	11.8	21.4	22.6	23.8	24.9	26.0	35.8	37.1	39.2	53 23.78	0.04	44.13	18 52 39.69	13.11
	Dorpat 2434, (1st *)	44	19.9	21.9	23.2	32.5	33.5	34.9	35.9	37.0	46.9	47.8	49.9	56 34.86	+ 0.08	44.13	18 55 50.81	11.93
	Dorpat 2434, (2d *)	45	0.0	1.3	2.5	3.7	6.1	. .	6.1	8.5	9.8	10.0	12.4	56 36.14	— 0.15	44.13	18 55 51.86	11.93
	ζ Aquilæ	46	. .	. .	. .	11.9	13.2	15.3	31.0	33.5	34.7	36.1	37.4	0 26.64	— 26.73	44.13	18 59 15.78	10.41
	Weisse 224	47	55.3	57.3	58.5	8.1	9.1	10.2	11.4	12.4	22.2	23.2	25.3	11 10.27	+ 0.08	44.14	19 10 26.21	11.76
	Dorpat 2492	48	12.7	14.8	16.1	25.5	26.6	27.8	29.0	30.0	39.6	40.8	42.9	12 27.80	0.08	44.14	19 11 43.74	11.76
	O. Arg. S. 19674	49	50.8	53.0	54.3	4.6	5.7	7.0	8.2	9.3	19.8	21.0	23.3	25 7.00	+ 0.16	—44.14	19 24 23.02	+ 14.09

1. Faint.
14. Through clouds.
39. Through clouds.

s.
July 18–19, n. = — 0.11.

r.
July 19, 6h. Image west 0.41. Clamp west.
Image west 0.04. Clamp east.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 18, 7.4	— 42.48	— 0.045	— 0.11
19, 9.6	43.38	0.024	
20, 15.4	— 44.00	— 0.036	+ 0.08

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.	
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.	
July 20	κ	Aquilæ	1	10.2	12.3	13.5	23.0	24.0	25.2	26.5	27.5	37.2	38.3	40.4	30 25.28	+ 0.10	—44.15	19 29 41.23	+ 12.49	
Y.	λ	Ursæ Minoris	2	..	..	..	40.5	36.0	36.0	37.0	35.5	..	..	..	0 37.00	— 2.10	44.17	19 59 50.73	— 335.26	
	α^2	Capricorni	3	6.0	8.1	9.4	19.0	20.1	21.3	22.5	23.6	33.5	34.7	36.7	11 21.35	+ 0.12	44.17	20 10 37.30	+ 12.96	
		Polaris	4	..	..	..	..	..	..	..	39.0	16.0	7.0	58.5	52.5	33 58.60	—22 50.58	44.37	1 10 23.65	53.27
	β	Arietis	5	42.2	44.4	45.7	55.8	56.8	58.1	..	..	..	..	..	47 50.50	+ 7.68	44.37	1 47 13.81	13.93	
	α	Arietis	6	4.7	6.9	8.4	18.6	19.7	21.0	22.4	23.5	33.8	35.1	37.4	0 21.04	+ 0.02	44.38	1 59 36.68	+ 14.28	
Tr.		Venus II	7	..	..	..	..	..	..	3.8	6.5	7.7	9.2	10.6	50 7.56	— 35.67	44.48	4 48 47.41	— 0.82	
	β	Orionis	8	33.4	35.3	36.6	46.2	47.3	48.5	49.6	50.7	0.5	1.6	3.7	8 48.49	+ 0.11	44.50	5 8 4.10	+ 13.36	
	δ	Orionis	9	37.4	39.1	40.5	50.0	51.0	52.1	53.3	54.4	4.1	5.3	7.3	25 52.23	0.08	44.51	5 25 7.80	14.15	
	ε	Orionis	10	22.3	..	25.7	35.2	36.3	37.4	38.7	39.7	49.6	..	52.7	48 37.51	0.06	44.53	5 47 53.04	15.05	
	α	Canis Minoris	11	44.4	46.4	47.6	57.1	58.2	59.5	0.7	1.7	11.3	12.6	14.6	32 59.46	0.06	44.60	7 32 14.92	+ 14.80	
21		Sun II	12	37.0	39.2	40.6	50.7	51.8	53.1	54.4	55.5	5.7	6.1	9.2	5 53.03	0.02	44.62	8 5 8.43	— 67.46	
		Mercury I	13	41.4	43.6	45.0	54.8	55.8	57.0	58.3	59.5	9.5	10.7	12.9	26 57.14	0.02	44.68	9 26 12.48	+ 0.20	
	α	Leonis	†14	41.1	43.2	44.6	54.4	55.5	..	57.8	58.9	8.7	10.0	11.9	1 56.61	+ 0.03	44.70	10 1 11.94	14.94	
	δ	Leonis	15	25.5	27.5	28.9	..	..	..	..	..	54.2	55.5	57.6	7 41.53	— 0.02	44.75	11 6 56.76	14.83	
Y.	β	Leonis	16	40.8	42.9	44.1	8.5	9.8	11.9	27.6	30.1	31.5	32.8	34.1	4 12.19	— 15.84	..	..	13.98	
	η	Virginis	17	31.3	33.3	34.5	44.0	45.0	46.2	47.4	48.5	58.1	59.2	1.3	13 46.25	+ 0.08	..	..	13.65	
		Polaris, S. P.	18	..	..	..	..	..	..	35.0	1.0	10.5	17.5	22.0	48 17.20	22 50.61	44.67	1 10 23.14	52.85	
Tr.	κ	Ophiuchi	19	49.6	51.6	52.9	2.4	3.5	4.7	5.8	6.8	16.6	17.8	20.0	52 4.70	+ 0.05	44.99	16 51 19.76	+ 11.17	
	ε	Ursæ Minoris	20	..	..	..	10.4	19.0	34.5	27.0	44.5	53.6	3.3	13.0	3 55.66	— 3 13.77	44.99	16 59 56.90	— 33.56	
	α	Herculis	21	2.0	4.0	5.3	15.2	16.2	17.4	18.7	19.7	29.7	30.8	32.9	9 17.44	+ 0.04	44.99	17 8 32.49	+ 10.67	
	δ	Ursæ Minoris	22	..	..	..	..	..	..	..	59.0	19.8	44.0	5.3	26 32.02	— 9 44.85	45.05	18 16 2.12	— 104.21	
	51	Cephei, S. P.	23	59.0	17.0	51.0	36.0	14.0	50.0	23.0	3.0	41.5	17.5	36.0	36 48.00	+ 1.87	45.06	6 36 4.81	+ 158.00	
	ζ	Aquilæ	24	45.4	47.4	48.7	58.4	59.4	0.6	1.9	3.0	12.8	14.0	16.1	0 0.70	0.04	45.08	18 59 15.66	10.41	
Y.	β	Tauri	25	15.2	17.5	18.9	29.8	30.9	32.3	33.6	34.9	55.8	57.1	59.4	18 32.31	0.00	44.99	5 17 47.32	17.32	
	δ	Orionis	26	37.8	39.7	41.0	50.6	51.5	52.7	53.8	54.8	4.4	5.5	7.6	25 52.67	0.08	44.99	5 25 7.76	14.16	
	ε	Orionis	27	52.8	54.8	56.1	5.5	6.6	7.8	8.9	10.0	19.6	20.7	22.9	30 7.79	0.08	45.00	5 29 12.87	14.10	
	α	Orionis	28	23.0	24.8	26.2	35.8	36.8	38.0	39.1	40.2	49.9	51.1	53.3	48 38.02	0.04	45.01	5 47 53.05	15.03	
	α	Canis Majoris	†29	41.8	43.9	45.2	54.9	56.0	57.1	58.4	59.5	9.5	10.8	13.1	39 57.29	0.13	45.11	6 39 12.31	+ 12.59	
22		Sun II	30	36.6	..	40.3	50.3	51.3	52.6	53.9	55.0	5.3	..	8.7	9 52.67	+ 0.03	45.13	8 9 7.57	— 67.39	
		Mercury I	31	..	..	..	..	..	..	..	..	32.0	33.3	..	33 41.03	— 21.26	45.19	9 32 34.58	+ 0.20	
	δ	Leonis	32	25.9	27.9	29.3	39.5	40.6	41.9	43.2	44.4	54.7	55.9	58.1	7 41.95	+ 0.03	45.27	11 6 56.71	14.84	
Tr.	β	Corvi	33	49.1	51.3	52.6	2.8	3.9	5.3	6.5	7.7	18.2	19.4	21.6	28 5.31	0.17	..	..	13.68	
		Polaris, S. P.	34	..	..	..	38.0	58.0	9.0	21.0	40.0	9.0	19.0	58.0	7 46.50	3 24.36	45.49	..	52.04	
	α	Virginis	35	37.4	39.3	40.7	50.3	51.4	52.6	53.8	54.9	4.6	5.8	7.9	18 52.61	0.12	..	..	13.22	
Y.	ν	Serpentis	36	47.8	49.9	51.1	0.9	1.9	3.1	4.3	5.3	15.2	16.5	18.6	14 3.14	0.13	45.57	17 13 17.70	13.32	
		Jupiter I	37	14.3	16.4	17.9	28.2	29.3	30.5	31.8	32.9	43.4	44.7	46.8	17 30.56	+ 0.17	45.58	17 16 45.15	..	
		Jupiter II	38	54.9	56.4	57.7	59.0	1.4	..	6.6	9.2	10.6	11.9	13.4	17 34.11	— 0.08	45.58	17 16 48.45	..	
	b	Ophiuchi	39	..	..	..	9.8	11.1	13.4	30.0	32.7	34.0	35.3	36.8	19 25.39	28.30	45.58	..	14.43	
		O. Arg. N. 17168	40	..	..	..	51.9	56.5	2.0	8.0	12.6	..	..	..	24 2.20	0.14	45.58	17 23 16.48	17.07	
		B. A. C. 5938	41	..	..	..	58.1	59.3	0.7	2.2	3.4	14.7	16.2	18.6	29 6.65	5.64	45.59	17 28 15.42	15.36	
		* — 32° 9′	42	20.4	21.8	23.4	24.7	27.4	..	38.3	41.2	42.6	44.3	45.6	32 2.97	— 0.06	45.59	17 31 17.32	15.36	
		B. A. C. 5960	43	46.4	48.7	50.2	1.4	2.6	4.0	5.3	6.7	18.1	19.5	21.9	32 4.07	+ 0.21	45.59	17 31 18.69	15.37	
		B. A. C. 5964	44	..	..	..	57.3	58.7	0.0	1.4	2.8	14.1	16.5	17.9	33 6.09	— 5.64	45.59	17 32 14.86	15.36	
		Weisse 755	45	45.6	47.6	48.9	58.4	59.4	0.6	1.8	2.8	12.6	13.8	15.9	40 0.67	+ 0.11	45.60	17 39 15.18	12.79	
		Weisse 779	46	..	..	..	35.6	36.7	37.9	39.0	40.0	49.9	50.9	53.1	40 42.89	— 4.89	45.60	17 39 52.40	12.80	
		B. A. C. 6046	47	59.6	2.1	3.8	15.2	16.4	17.9	19.3	20.7	32.3	33.6	36.2	46 17.92	+ 0.23	45.60	17 45 32.55	15.65	
		O. Arg. N. 17680	48	31.5	40.3	45.5	26.1	30.2	35.9	40.8	45.1	26.5	31.9	40.1	52 35.81	— 0.32	45.60	17 51 49.89	15.53	
Tr. 23	δ	Orionis	49	..	..	..	52.7	53.7	54.8	56.0	57.1	6.6	7.8	10.0	25 59.84	4.87	47.16	5 25 7.81	14.12	
	ε	Orionis	50	..	..	..	..	..	..	40.3	42.7	44.1	45.4	46.6	30 43.82	— 33.56	—47.17	5 29 23.09	+ 14.05	

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 21, 10.9	— 44.74	— 0.042	+ 0.08
22, 8.4	— 45.14	— 0.049	+ 0.09
23, 6.2	— 47.20	— 0.050	

14. Very unsteady.
29. Unsteady.

s.
July 20–21. P. S. P., P., and P. S. P., n = —0.17.
22–23. —0.17.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 23	α Orionis	1	25.2	27.2	28.4	38.0	39.1	40.3	41.4	42.4	52.2	53.4	55.4	48 40.27	+ 0.07	—47.18	5 47 53.16	+ 14.98
Tr.	α Canis Majoris	2	44.1	46.1	47.4	57.2	58.4	59.5	0.8	1.8	11.9	13.1	15.3	39 59.60	0.15	47.22	6 39 12.53	12.56
	α Canis Minoris	3	47.2	49.1	50.4	59.9	0.9	2.1	3.2	4.3	14.0	15.3	17.2	33 2.14	0.07	47.26	7 32 14.95	+ 14.76
24	Sun I	4	20.6	22.8	24.4	34.3	35.4	. .	38.1	39.1	49.3	50.7	52.8	15 36.75	0.02	47.30	8 14 49.47	. .
	Sun II	5	35.4	37.5	38.9	49.0	50.0	51.2	52.6	53.7	3.9	5.1	7.3	17 51.33	0.03	47.30	8 17 4.06	. .
Y.	Venus II	6	59.3	1.4	2.7	12.9	13.9	15.1	16.4	17.4	27.8	29.1	31.3	6 15.21	0.03	47.96	5 5 27.28	— 0.78
	β Orionis	7	36.9	38.9	40.1	49.6	50.7	51.9	53.0	54.1	4.0	5.0	7.1	8 51.94	0.12	47.96	5 8 4.10	+ 13.27
	β Tauri	8	18.2	20.5	21.8	32.7	33.9	35.3	36.6	37.8	48.8	50.2	52.6	18 35.31	+ 0.01	47.97	5 17 47.35	17.24
25	Mercury I	9	51.8	53.2	54.6	55.8	58.2	. .	0.4	2.8	4.1	5.4	6.7	51 29.31	— 0.18	48.04	9 50 41.09	0.20
	α Herculis	10	5.2	7.3	8.6	18.3	19.4	20.6	21.9	23.0	32.8	34.1	36.2	9 20.58	+ 0.05	48.14	17 8 32.49	10.69
	ν Serpentis	11	50.3	52.3	53.7	3.4	4.3	5.5	6.7	7.8	17.6	19.0	21.0	14 5.60	+ 0.15	48.15	17 13 17.60	13.34
	Jupiter I	12	1.7	3.3	4.6	5.8	8.4	. .	13.4	16.0	17.3	18.6	20.1	16 40.92	— 0.05	48.15	17 15 52.72	. .
	Jupiter II	13	27.7	29.9	31.4	41.5	42.6	44.0	45.3	46.4	56.8	58.2	0.3	16 44.01	+ 0.20	48.15	17 16 56.06	. .
	O. Arg. N. 17136	14	26.7	35.8	41.8	25.4	30.2	35.9	41.3	46.0	30.4	36.0	45.5	21 35.91	— 0.48	48.15	17 20 47.28	16.46
	* — 32° 9′	15	22.9	24.4	25.9	27.2	30.0	. .	40.8	43.8	45.2	46.9	48.4	32 5.55	— 0.02	48.15	17 31 17.38	15.38
	B. A. C. 5960	16	48.9	51.4	52.7	3.9	5.2	6.5	8.2	9.3	20.6	22.1	24.4	32 6.65	+ 0.25	48.15	17 31 18.75	15.38
	B. A. C. 5964	17	. .	. .	. .	0.0	1.2	2.6	4.0	5.2	16.6	18.0	20.4	33 8.50	— 5.60	48.15	17 32 14.75	15.38
	Weisse 697	18	16.7	18.7	19.9	. .	. .	. .	. .	. .	43.7	44.9	46.9	37 31.80	+ 0.09	48.15	17 36 43.74	12.82
	Weisse 713	19	. .	. .	. .	3.9	5.0	6.2	7.4	8.4	18.2	19.4	21.4	38 11.24	— 4.87	48.15	17 37 18.22	12.80
	Weisse 755	20	. .	. .	. .	. .	2.1	3.3	4.4	5.5	15.3	16.5	18.5	40 9.37	5.91	48.15	17 39 15.31	12.80
	Weisse 779	21	. .	. .	. .	38.2	39.2	40.4	41.7	42.7	52.7	53.7	55.7	40 45.54	— 4.87	48.15	17 39 52.52	12.81
	4 Sagittarii	22	8.5	10.7	12.1	22.4	23.6	24.9	26.1	27.3	37.9	39.0	41.4	52 24.90	+ 0.20	48.16	17 51 36.94	14.39
	* — 21° 30′	23	9.0	11.0	12.4	22.5	23.7	24.9	26.3	27.4	37.8	39.0	41.2	55 25.02	0.19	48.16	17 54 37.05	14.14
	* — 21° 27′	24	40.7	42.5	43.8	54.0	55.1	56.4	57.6	58.7	9.0	10.3	12.5	58 56.42	0.19	48.16	17 58 8.45	14.13
	Lalande 33147	25	. .	. .	. .	34.6	35.7	37.0	38.3	39.5	. .	. .	. .	59 37.02	+ 0.24	48.16	17 58 49.10	14.13
	Lalande 33164	26	. .	. .	. .	55.0	56.0	57.3	58.6	59.7	10.0	11.3	13.4	0 2.66	— 5.13	48.16	17 59 9.37	14.12
	Lalande 33210	27	8.4	10.5	12.0	22.2	23.3	24.6	25.8	27.0	37.3	38.6	40.6	1 24.57	+ 0.19	48.16	18 0 36.60	14.12
	* — 21° 22′	28	. .	. .	. .	54.5	55.7	57.9	14.2	16.8	18.1	19.4	20.8	2 9.68	— 27.74	48.16	18 0 53.78	14.11
	μ Sagittarii	29	17.3	19.4	20.7	30.7	31.8	33.1	34.4	35.5	45.9	47.2	49.4	6 33.22	+ 0.19	48.16	18 5 45.25	+ 14.05
	δ Ursæ Minoris	30	37.5	10.2	32.2	11.5	29.0	48.5	8.7	26.5	9.7	29.0	4.0	16 49.68	— 1.85	48.16		— 103.28
	O. Arg. S. 18324	31	. .	. .	. .	28.3	29.4	31.5	47.6	50.1	51.5	52.9	54.3	24 43.20	— 27.33	48.16	18 23 27.71	+ 13.80
	B. A. C. 6301	32	8.4	10.7	11.9	22.0	23.0	24.3	25.6	26.8	37.0	38.2	40.3	25 24.38	+ 0.18	48.16	18 24 36.40	13.81
	1 Aquilæ	33	28.2	30.3	31.5	41.0	42.0	43.2	44.4	45.5	55.3	56.5	58.6	28 43.32	0.13	48.16	18 28 55.29	12.69
	B. A. C. 6343	34	53.6	55.8	57.2	7.5	8.6	10.0	11.1	12.3	22.7	24.1	26.3	31 9.93	0.20	48.17	18 30 21.96	14.18
	51 Cephei, S. P.	35	. .	. .	. .	38.0	17.5	53.0	28.7	7.0	. .	. .	. .	36 52.84	+ 1.33	48.17	6 36 6.00	156.88
N.	* + 2° 28′	36	14.0	15.4	16.5	17.7	20.0	. .	20.1	22.5	23.8	25.1	26.5	39 50.16	— 0.14	48.53	0 39 1.49	12.64
	Neptune	37	24.6	25.9	27.2	28.3	30.7	. .	30.7	33.0	34.3	35.6	37.0	42 0.73	— 0.14	48.53	0 41 12.06	. .
	ϵ Piscium	38	32.6	34.5	35.8	45.4	46.3	47.6	48.7	49.8	59.5	0.7	2.8	56 47.61	+ 0.07	48.53		12.78
	α Orionis	39	26.8	28.8	30.2	39.6	40.6	41.8	43.0	45.1	54.0	55.2	57.1	48 41.75	0.07	48.78	5 47 53.04	14.94
Tr.	μ Geminorum	40	21.7	23.7	25.1	35.4	36.5	37.8	39.1	40.2	50.7	52.1	54.1	15 37.85	0.02	48.83	6 14 49.04	16.77
	β Geminorum	41	36.1	38.2	39.8	50.5	51.6	52.9	54.4	55.6	6.5	7.8	10.1	37 53.05	0.00	48.90	7 37 4.15	17.31
26	Sun I	42	16.6	18.8	20.2	30.1	31.2	32.5	33.8	35.0	45.1	46.6	48.7	23 32.60	0.03	48.95	8 22 43.68	. .
	Sun II	43	31.0	33.2	34.6	44.5	45.5	46.9	48.2	49.4	59.5	0.7	2.8	25 46.94	0.03	48.95	8 24 58.02	. .
	δ Leonis	44	29.8	31.9	33.3	43.3	44.5	45.9	47.0	48.2	58.5	59.7	1.9	7 45.82	0.03	49.11	11 6 56.74	14.86
	Moon I	45	47.4	49.5	50.9	0.5	1.5	2.7	3.9	5.0	14.9	16.1	18.2	21 2.69	0.10	49.12	11 20 13.67	. .
	β Leonis	46	45.3	47.3	48.6	. .	. .	. .	. .	. .	13.0	14.3	16.4	43 0.82	0.01	49.15	11 42 11.68	14.02
	ζ Virginis	47	35.8	37.7	39.1	48.5	49.6	50.7	51.9	53.0	2.5	3.7	5.8	13 50.70	0.10	49.18	12 13 1.62	13.70
	Polaris, S. P.	48	. .	. .	. .	. .	. .	. .	48.0	12.0	22.0	29.0	33.0	48 28.80	22 51.60	49.22	1 11 31.18	48.97
	α Herculis	49	6.5	8.5	9.7	19.5	20.6	21.8	23.0	24.2	34.2	35.3	37.3	9 21.87	+ 0.05	—49.48	17 8 32.44	+ 10.71

July 25. n. = —0.21.
26. P. S. P. and P., n. = —0.21.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
July 25, 12.8	— 48.08	— 0.015	+ 0.10
26, 13.8	— 49.28	— 0.062	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction to 1870.0.
1865			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 2	ϵ Ursæ Minoris . .	1	. .	. .	. .	30.0	36.5	45.7	54.3	2.8	. .	. .	. .	0 45.86	— 1.05	—50.30	16 59 54.51	— 31.29
Tr.	Moon I	†2	37.0	. .	. .	. .	. .	53.0	. .	. .	. .	. .	9.6	7 53.20	0.00	50.30	17 7 2.90	. .
	Jupiter I . .	3	16.5	18.0	19.3	20.6	23.0	. .	. .	. .	. .	. .	. .	14 19.48	+ 36.23	50.29	17 14 5.42	. .
	Jupiter II . . .	4	56.2	57.3	58.6	59.9	1.1	. .	31.3	33.9	35.4	36.7	38.1	15 16.85	— 17.96	50.29	17 14 8.60	. .
	b Ophiuchi . . .	5	45.2	47.3	48.7	59.0	0.1	. .	2.8	4.0	14.6	15.9	18.0	19 1.56	+ 0.25	50.29	17 18 11.52	+ 14.52
	a Ophiuchi . . .	6	18.0	20.1	21.4	31.0	32.0	33.4	34.6	35.6	45.5	46.7	48.8	29 33.37	+ 0.04	50.29	17 28 43.12	10.89
	μ Herculis . . .	7	46.7	49.0	50.4	1.0	2.2	3.7	5.0	6.2	17.1	18.4	20.7	42 3.67	— 0.03	50.28	17 41 13.36	8.89
	γ^2 Sagittarii . .	†8	45.3	. .	. .	. .	. .	2.4	. .	. .	. .	. .	20.0	58 2.57	+ 0.29	50.27	17 57 12.59	15.15
	μ Sagittarii . . .	9	19.4	21.5	22.9	33.0	34.1	35.4	36.7	37.8	. .	49.4	51.5	6 34.17	+ 1.27	50.26	18 5 45.18	+ 14.09
	δ Ursæ Minoris . .	10	. .	. .	. .	13.5	30.0	51.0	10.0	29.0	. .	. .	. .	16 50.70	— 2.42	50.26	18 15 58.02	— 101.27
	β Geminorum . . .	11	. .	. .	. .	. .	. .	. .	. .	. .	7.5	9.1	11.3	38 9.30	15.35	49.61	7 37 4.34	+ 17.18
3	Sun I	12	. .	. .	. .	58.4	0.0	2.1	17.6	19.9	21.0	22.4	24.0	55 13.17	27.25	49.60	8 53 56.32	. .
	Sun II	13	43.3	45.4	46.7	56.7	58.0	59.2	0.4	1.6	11.3	12.6	14.7	56 59.08	0.25	49.60	8 56 9.23	. .
	a Leonis	14	46.1	48.4	49.5	59.5	0.6	1.8	2.9	4.1	13.7	15.0	17.0	2 1.69	0.22	49.57	10 1 11.90	14.94
	Mercury I . . .	15	13.8	16.0	17.4	27.0	28.2	29.3	30.6	31.7	41.0	42.2	44.4	37 29.24	0.19	49.56	10 36 39.72	0.23
	a Ophiuchi . . .	16	17.3	19.4	20.5	30.5	31.7	32.8	34.0	35.1	44.7	46.0	48.2	29 32.75	0.22	49.45	17 28 43.08	+ 10.90
	Moon I	17	38.1	40.3	41.8	52.2	53.3	54.6	55.9	57.2	7.4	8.6	10.9	4 54.57	0.05	49.44	18 4 5.08	. .
	δ Ursæ Minoris . .	18	. .	. .	. .	18.0	36.0	57.0	16.0	32.5	. .	. .	. .	16 55.90	8.38	49.44	18 15 58.08	— 100.95
	β Lyræ	19	40.7	43.2	44.6	55.1	57.4	58.7	0.2	1.5	2.8	4.4	6.8	45 58.76	0.43	49.44	18 45 8.89	+ 7.92
	ζ Aquilæ	20	50.0	52.0	53.2	3.1	4.1	5.3	6.5	7.6	17.3	18.6	20.7	0 5.31	0.23	49.43	18 59 15.65	10.42
	a Orionis	21	27.6	29.5	30.8	40.4	41.4	42.7	43.9	44.9	54.5	55.8	57.9	48 42.67	0.19	49.12		+ 14.70
	Venus II . . .	†22	27.1	28.3	29.5	30.7	31.9	. .	1.4	3.9	5.3	6.6	8.1	54 47.28	18.11	49.12	5 53 40.05	— 0.71
4	Sun I	23	. .	. .	. .	34.7	35.8	37.2	38.5	39.5	49.1	50.6	52.7	58 42.26	5.48	49.14	8 57 47.64	. .
	Sun II	24	33.8	35.9	37.3	47.4	48.5	49.7	51.1	52.1	2.0	3.3	5.3	0 49.67	0.25	49.14	9 0 0.28	. .
5	β Leonis	25	45.4	47.6	48.8	58.6	59.8	1.0	2.3	3.2	13.0	14.3	16.5	43 0.95	— 0.24	41.16		+ 14.09
7	Jupiter I . . .	26	33.0	34.5	35.8	37.3	39.8	. .	45.0	47.4	48.6	50.0	51.5	14 12.29	+ 0.20	49.45	17 13 23.04	. .
	Jupiter II . . .	27	59.4	1.6	2.9	13.4	14.6	15.9	17.2	18.2	28.6	29.8	31.9	14 15.77	— 0.05	49.45	17 13 26.27	. .
	B. A. C. 5868 .	28	. .	. .	. .	57.2	58.8	0.8	17.2	19.5	20.9	22.3	23.8	18 12.56	28.18	49.45	17 16 54.93	14.58
	b Ophiuchi . . .	29	44.4	46.7	47.9	58.4	59.6	0.7	2.1	3.4	13.6	15.2	17.4	19 0.85	0.04	49.45	17 18 41.36	14.58
	a Ophiuchi . . .	30	17.3	19.4	20.7	30.5	31.6	32.9	34.1	35.0	44.8	46.0	48.2	29 32.77	0.23	49.45	17 29 43.09	10.94
	*—28° 0′ . . .	31	20.8	22.9	24.2	35.0	36.3	37.6	38.9	40.0	50.9	52.3	54.5	35 37.58	— 0.02	49.45	17 34 48.11	15.00
	O. Arg. S. 17132 .	32	42.3	44.5	46.0	. .	. .	. .	. .	. .	12.6	14.2	16.4	36 59.33	+ 0.02	49.45	17 36 9.90	15.00
	*—28° 1′ . . .	33	. .	. .	. .	57.0	58.1	59.4	0.7	1.9	. .	. .	. .	36 59.42	— 0.07	49.45	17 36 9.90	15.00
	O. Arg. S. 17152 .	34	29.2	31.4	32.8	. .	. .	. .	. .	. .	59.5	1.1	3.2	37 46.20	+ 0.01	49.45	17 36 56.76	15.00
	O. Arg. S. 17157 .	35	. .	. .	. .	51.8	53.0	54.4	55.6	56.8	. .	. .	. .	37 54.32	— 0.08	49.45	17 37 4.79	15.01
	O. Arg. S. 17281 .	36	45.9	47.6	48.9	50.3	52.9	. .	59.6	2.2	3.5	4.8	6.4	44 26.21	+ 0.23	49.45	17 43 36.99	14.74
	O. Arg. S. 17284 .	37	16.3	18.5	19.9	30.5	31.8	33.0	34.3	35.4	45.8	47.5	49.5	44 32.95	— 0.03	49.45	17 43 43.47	14.74
	O. Arg. S. 17354 .	38	37.4	38.8	40.3	41.7	44.6	. .	51.7	54.4	55.7	57.0	58.7	48 18.03	+ 0.21	49.45	17 47 28.79	14.76
	O. Arg. S. 17361 .	39	16.2	18.4	20.0	30.7	31.8	33.1	34.6	35.8	46.3	47.7	50.0	48 33.15	— 0.04	49.45	17 47 43.66	14.76
	O. Arg. S. 17413 .	40	. .	. .	. .	51.6	52.8	54.1	55.4	56.5	. .	. .	. .	50 54.08	0.09	49.45	17 50 4.54	14.63
	O. Arg. S. 17412 .	41	37.5	39.7	41.0	. .	. .	. .	. .	. .	7.0	8.4	10.4	50 54.00	0.00	49.45	17 50 4.55	14.64
	O. Arg. S. 17426 .	42	19.0	21.2	22.5	33.3	34.4	35.6	36.8	38.0	48.5	50.0	52.0	51 35.57	0.04	49.45	17 50 46.08	14.63
	O. Arg. S. 17447 .	43	11.6	13.8	15.2	. .	. .	. .	. .	. .	41.1	42.4	44.7	52 28.13	0.00	49.45	17 51 38.68	14.62
	O. Arg. S. 17449 .	44	. .	. .	. .	31.6	32.7	33.8	35.0	36.4	. .	. .	. .	52 33.90	0.09	49.45	17 51 44.36	14.62
	B. A. C. 6111 . .	45	30.5	33.0	34.1	44.8	45.9	47.2	48.5	49.6	59.9	1.3	3.6	57 47.13	0.04	49.45	17 56 57.64	14.52
	O. Arg. S. 17597 .	46	25.6	27.8	29.2	39.6	40.7	42.1	43.4	44.6	55.0	56.2	58.3	58 42.05	0.04	49.45	17 57 52.56	14.50
	O. Arg. S. 17817 .	47	13.4	15.4	16.8	27.2	28.2	29.5	30.7	31.9	42.0	43.4	45.4	5 29.45	0.06	49.45	18 4 39.94	14.14
	μ Sagittarii . . .	48	18.6	20.7	22.2	32.3	33.4	34.7	36.0	37.2	47.3	48.7	50.8	6 34.72	0.06	49.45	18 5 45.21	+ 14.13
	δ Ursæ Minoris . .	49	40.2	14.0	34.0	17.0	35.0	54.5	14.5	32.2	11.5	34.3	6.4	16 53.96	— 7.77	—49.45	18 15 56.74	— 99.70

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Aug.	2, 12.5	— 50.45	+ 0.033	+ 0.11
	3, 14.6	49.50	+ 0.016	— 0.15
	4, 8.8	49.14	— 0.006	
	7, 21.0	— 49.46	— 0.002	— 0.16

2. Eye and ear observation.
8. Eye and ear observation.
22. Faint; through clouds.

August 2–4, n. = — 0.30.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 7	51 Cephei, S. P.	1	5.5	24.0	57.5	39.0	16.0	51.0	27.0	6.0	49.5	24.5	43.0	36 53.00	+ 9.54	—49.45	6 36 13.09	+ 152.66
Tr.	ϵ Pegasi	2	11.4	13.5	14.6	24.4	25.5	26.6	27.9	28.9	38.4	39.9	41.8	38 26.63	— 0.21	49.46	21 37 36.96	11.10
	μ Capricorni	3	33.8	35.8	37.0	47.0	48.0	49.3	50.6	51.6	1.3	2.7	4.7	46 49.26	0.09	49.46	21 45 59.71	12.69
	α Aquarii	4	29.1	31.2	32.4	41.9	43.0	44.2	45.5	46.5	55.9	57.2	59.1	59 44.18	0.15	49.46	21 58 54.57	11.78
	Moon II	5	23.5	25.6	26.9	36.8	38.0	39.0	40.3	41.4	51.1	52.5	54.5	2 39.05	0.12	49.46	22 1 49.47	. .
	θ Aquarii	6	20.4	22.5	23.7	33.4	34.5	35.7	37.0	38.0	47.6	48.9	50.9	10 35.69	0.12	49.46	22 9 46.11	12.24
	ρ Aquarii	7	43.5	45.7	46.8	. .	57.7	58.8	0.0	1.1	10.8	11.9	14.0	13 59.03	0.34	49.46	22 13 9.23	12.22
	Juno	8	59.4	1.5	2.8	12.2	13.3	14.6	15.8	16.8	26.3	27.5	29.5	25 14.52	— 0.17	49.46	23 24 24.89	. .
	ι Piscium	9	38.4	40.5	41.6	51.3	52.4	53.6	54.9	55.8	. .	6.5	8.6	33 52.36	+ 0.99	49.46	23 33 3.89	11.99
	* + 2° 28′	10	. .	. .	. .	3.0	4.4	6.3	21.2	23.5	24.7	26.0	27.3	39 17.05	— 25.89	49.47	0 38 1.69	12.29
	Neptune	11	19.0	21.0	22.2	31.8	32.7	33.8	35.1	36.1	45.6	47.1	49.0	41 33.94	0.18	49.47	0 40 44.29	. .
	Weisse 956	12	43.5	45.4	46.8	56.4	57.6	58.8	59.8	1.0	10.4	11.8	13.6	55 58.65	0.20	49.47	0 55 8.98	12.45
	ϵ Piscium	13	33.9	36.0	37.0	47.0	48.2	49.3	50.6	51.6	1.0	2.2	4.3	56 49.19	— 0.20	49.47	0 55 59.52	12.43
	Polaris	14	9.0	3.0	56.0	45.0	23.0	. .	. .	. .	. .	. .	. .	49 3.20	+22 29.14	49.47	1 11 42.87	+ 38.71
Y.	Venus II	15	53.4	55.6	56.7	7.2	8.2	. .	10.9	12.0	22.1	23.6	25.7	8 9.53	— 0.28	49.42	6 7 19.83	— 0.70
	α Canis Majoris	16	46.7	48.8	50.1	0.2	1.3	2.5	3.7	. .	14.6	16.0	18.0	40 2.19	+ 0.15	49.43	6 39 12.91	+ 12.28
	α Canis Minoris	17	49.9	51.9	53.1	2.8	3.9	5.0	6.2	7.3	16.7	17.9	20.0	33 4.97	— 0.19	49.46	7 32 15.32	14.54
	β Geminorum	18	37.1	39.4	40.7	51.8	53.0	54.3	55.7	56.8	7.5	8.9	11.1	37 54.21	0.35	49.46	7 37 4.40	17.09
8	Sun I	19	40.8	42.9	44.1	54.1	55.2	56.4	57.7	58.8	8.7	9.9	12.2	13 56.44	0.26	49.50	9 13 6.68	. .
	Sun II	20	52.9	54.9	56.1	6.1	7.2	8.5	9.7	10.7	20.8	21.9	24.0	16 8.44	— 0.26	49.50	9 15 18.68	. .
	Mercury I	†21	4.1	5.4	6.7	7.9	10.5	25.7	27.8	. .	. .	. .	. .	56 12.59	+ 28.02	49.55	10 55 51.06	0.24
	Polaris, S. P.	22	. .	. .	. .	41.0	58.5	10.0	22.5	41.5	17.0	24.5	5.5	7 50.06	3 41.46	49.62	1 10 41.90	38.37
	α Virginis	23	41.5	43.6	44.9	54.7	55.7	56.9	58.2	. .	8.7	10.2	12.1	18 56.65	+ 0.11	49.62	13 18 7.14	13.77
Tr.	α Herculis	24	6.9	8.9	10.2	20.2	21.3	22.5	23.7	24.7	34.4	35.7	37.9	9 22.40	— 0.25	49.83	17 8 32.32	10.85
	Jupiter I	25	27.5	28.9	30.3	31.7	34.3	. .	39.2	41.8	43.0	44.4	45.9	14 6.70	+ 0.19	49.83	17 13 17.06	. .
	Jupiter II	26	53.9	56.2	57.3	7.8	9.1	10.3	11.7	12.6	22.7	24.2	26.3	14 10.19	— 0.06	49.83	17 13 20.30	. .
	b Ophiuchi	27	44.8	47.0	48.3	58.8	59.9	1.2	2.5	3.7	14.2	15.5	17.6	19 1.23	0.05	49.84	17 18 11.34	14.59
	α Ophiuchi	28	17.6	19.7	21.1	30.8	31.9	33.1	34.4	35.3	45.0	46.4	48.4	29 33.06	0.24	49.84	17 28 42.98	10.95
	μ Sagittarii	29	19.1	21.2	22.4	32.8	33.9	35.2	36.5	37.6	47.7	49.0	51.2	6 35.15	0.07	49.86	18 6 45.22	+ 14.14
	δ Ursæ Minoris	30	41.3	15.0	36.5	. .	. .	. .	. .	. .	14.8	36.0	8.0	16 55.27	— 7.29	49.86	18 15 58.12	— 99.41
	51 Cephei, S. P.	31	5.0	21.0	58.0	36.5	15.0	50.0	26.0	3.5	47.0	21.0	41.0	36 51.27	+ 9.75	49.87	6 36 11.15	+ 152.35
	ζ Aquilæ	32	50.4	52.4	53.7	3.6	4.7	5.9	7.1	8.2	17.8	19.1	21.1	0 5.82	— 0.25	49.89	18 59 15.68	10.45
Y.	η Aquarii	33	3.6	5.7	6.9	16.4	17.5	18.7	19.9	21.0	30.5	31.7	33.7	29 18.70	0.17	49.89	22 28 28.64	11.84
	O. Arg. S. 22373	34	40.2	42.6	43.9	54.8	55.9	57.2	58.5	59.7	10.3	11.6	14.0	37 57.15	0.04	49.89	22 37 7.22	12.96
	O. Arg. S. 22436	35	. .	. .	. .	45.8	47.2	49.3	5.2	7.8	9.1	10.4	11.8	44 0.82	27.60	49.90	22 42 43.32	12.72
	78 Aquarii	36	10.6	12.7	13.9	37.7	38.8	40.9	55.9	58.2	59.5	0.6	2.0	48 40.98	15.33	49.90	22 47 35.75	12.15
	Moon II	†37	25.2	27.3	28.5	38.4	39.5	40.7	41.8	43.0	52.7	53.9	56.0	0 40.63	— 0.15	49.91	22 59 50.57	. .
	ϕ Aquarii	38	36.5	37.9	39.2	40.4	42.7	. .	. .	. .	. .	. .	. .	7 39.34	+ 33.80	49.91	23 7 23.23	12.11
	Polaris	39	. .	. .	. .	. .	. .	. .	6.0	40.0	27.5	17.0	11.0	34 20.30	—22 48.41	49.98	1 10 41.91	38.04
	β Arietis	40	48.6	50.8	52.1	2.3	3.4	4.6	5.8	7.0	17.0	18.3	20.5	48 4.58	0.29	49.99	1 47 14.30	13.34
	α Arietis	41	11.2	13.5	14.7	25.2	26.2	27.5	28.8	30.0	40.2	41.6	43.8	0 27.52	0.31	49.99	1 59 37.22	+ 13.68
Tr.	Venus II	42	29.7	31.9	33.1	58.6	0.0	2.0	18.0	20.4	21.8	23.1	24.6	13 2.11	16.49	49.95	6 11 55.67	— 0.69
	γ Geminorum	43	30.9	33.1	34.3	44.4	45.5	46.7	. .	49.1	58.9	0.2	2.2	30 46.53	0.14	49.95	6 29 56.44	+ 15.77
	α Canis Majoris	44	47.4	49.5	50.7	0.5	1.7	2.9	4.2	5.3	15.1	16.5	18.7	40 2.95	0.09	49.96	6 39 12.90	12.26
	α Geminorum	45	32.9	35.2	36.6	48.0	49.2	50.7	52.1	53.4	4.4	6.0	8.4	26 50.63	0.39	49.98	7 26 0.26	17.78
	α Canis Minoris	46	50.3	52.4	53.7	3.2	4.3	5.4	6.7	7.7	17.2	18.4	20.4	33 5.43	0.20	49.98	7 32 15.25	14.52
	β Geminorum	47	37.6	39.9	41.3	52.3	53.5	54.8	56.1	57.4	8.0	9.4	11.8	37 54.74	0.36	49.99	7 37 4.39	+ 17.07
9	Sun I	48	29.8	31.8	33.0	43.1	44.3	45.5	46.7	47.8	57.3	58.9	1.1	17 45.39	0.28	50.03	9 16 55.08	. .
	Sun II	49	41.7	43.6	45.0	55.0	56.0	57.2	58.5	59.6	9.3	10.7	12.7	19 57.21	— 0.28	—50.03	9 19 6.90	. .

21. Through clouds.
37. Through clouds.

August 7–8, n. = — 0.30 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Aug. 8, 15.6	— 49.69	— 0.029	— 0.17	

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 9		Mercury I	1	37.6	39.0	40.3	41.5	44.1	..	12.2	13.2	14.4	15.5	16.5	0 57.43	+ 16.69	—50.08	11 0 24.02	+ 0.24
Y.		Polaris	2	6.5	25.0	18.0	..	22.5	8.5	58.5	41.5	14.5	1.5	..	10 15.17	+ 1 17.68	50.12	1 10 42.73	37.68
	ζ	Virginis	3	26.1	28.2	29.4	38.9	39.9	41.1	42.4	43.4	52.9	54.2	56.2	28 41.15	— 0.19	50.13		13.40
Tr.	κ	Ophiuchi	4	54.7	56.8	58.0	7.8	8.9	10.2	11.4	12.4	21.9	23.2	25.1	52 10.04	0.24	50.25	16 51 19.55	11.37
		Weisse (2) 1735	5	23.1	25.3	26.6	37.3	38.5	39.7	41.1	42.3	52.6	54.2	56.3	57 39.73	0.36	50.25	16 56 49.12	+ 9.73
	ϵ	Ursæ Minoris	6	..	..	..	31.6	39.1	48.1	56.6	4.0	..	..	..	0 47.88	3.96	50.25	16 59 53.67	— 30.52
		Lacaille 7163	7	33.1	35.7	37.2	49.4	50.7	52.1	53.7	55.0	7.0	8.6	11.3	4 52.16	— 0.01	50.25	17 4 1.90	+ 16.28
		Weisse 117	8	26.9	28.3	29.7	30.8	33.4	..	..	..	..	..	..	8 29.82	+ 34.49	50.25	17 8 14.06	10.87
	α	Herculis	9	7.4	9.5	10.7	20.6	21.7	22.9	24.2	25.3	35.0	36.2	38.3	9 22.89	— 0.28	50.25	17 8 32.36	10.86
		O. Arg. S. 16600	10	59.0	1.1	2.4	12.8	14.0	15.3	16.6	17.6	28.0	29.3	31.4	12 15.23	— 0.08	50.25	17 11 24.90	14.48
		Jupiter I	11	22.7	24.1	25.5	26.8	29.4	..	34.5	37.1	38.4	39.7	41.2	14 1.94	+ 0.17	50.25	17 13 11.86	
		Jupiter II	12	49.2	51.2	52.6	2.9	4.2	5.4	6.7	7.8	18.1	19.6	21.6	14 5.39	— 0.08	50.25	17 13 15.06	
		B. A. C. 5868	13	..	..	..	..	..	..	18.2	20.7	21.9	23.3	24.8	18 21.78	36.42	50.26	17 16 55.10	14.62
	b	Ophiuchi	14	45.4	47.5	48.7	59.4	0.6	1.8	3.1	4.3	14.6	16.0	18.1	19 1.77	0.07	50.26	17 18 11.44	14.60
		O. Arg. S. 16842	15	22.1	24.1	25.3	35.2	36.3	37.5	38.8	39.9	49.7	51.1	53.2	22 37.56	0.11	50.26	17 21 47.19	13.76
		O. Arg. S. 16856	16	..	..	..	59.5	0.6	1.8	3.1	4.1	..	..	..	23 1.82	— 0.16	50.26	17 22 11.40	13.76
		O. Arg. S. 16875	17	41.9	43.9	45.3	55.1	56.1	57.2	58.6	0.0	9.7	..	13.0	24 56.08	+ 1.24	50.26	17 24 7.06	13.75
	3	Sagittarii	18	41.1	43.4	44.7	55.7	56.9	58.2	59.6	0.8	11.4	12.8	15.1	39 58.15	— 0.06	50.27	17 39 7.82	14.98
	μ	Herculis	19	47.0	49.3	50.6	1.4	2.7	4.1	5.4	6.6	17.2	18.7	20.9	42 3.99	— 0.37	50.27	17 41 13.35	8.97
		O.Arg.S.18115,(1st*)	20	46.1	47.6	48.9	50.1	52.7	..	54.8	57.3	58.6	59.8	1.2	15 23.71	+ 0.12	50.28	18 14 33.55	13.51
		O.Arg.S.18115,(2d*)	21	8.9	11.0	12.3	22.2	23.4	24.6	25.8	26.9	36.6	38.0	40.0	15 24.52	— 0.12	50.28	18 14 34.12	+ 13.51
	δ	Ursæ Minoris	22	37.0	0.5	22.0	42.5	22.0	..	..	..	..	..	..	7 24.80	+ 9 20.77	50.28	18 15 55.29	— 99.13
		Dorpat 2313, (1st*)	23	45.0	46.3	47.5	48.7	51.5	..	51.7	54.0	55.2	56.3	57.9	18 21.41	+ 0.07	50.28	18 17 31.20	+ 12.66
		Dorpat 2313, (2d*)	24	6.6	8.6	9.9	19.6	20.6	21.8	23.0	24.0	33.5	34.8	36.8	18 21.75	— 0.16	50.28	18 17 31.31	12.66
		Dorpat 2316, (1st*)	25	35.3	36.7	37.9	39.1	41.5	..	41.6	44.1	45.2	46.4	47.8	21 11.56	+ 0.04	50.29	18 20 21.31	11.98
		Dorpat 2316, (2d*)	26	56.9	59.0	0.2	9.7	10.8	12.0	13.2	14.3	23.7	25.0	27.0	21 11.98	— 0.19	50.29	18 20 21.50	11.98
		Weisse 570	27	26.9	29.0	30.2	40.1	41.1	42.2	43.5	44.6	54.2	55.5	57.5	25 42.25	0.13	50.29	18 24 51.83	13.09
	1	Aquilæ	28	30.5	32.4	33.6	43.4	44.5	45.7	47.0	48.1	57.5	58.8	0.8	28 45.66	0.15	50.29	18 27 55.22	12.76
		Weisse 696	29	35.5	37.6	38.9	48.7	49.8	51.1	52.3	53.3	2.9	4.2	6.4	30 50.97	0.13	50.29	18 30 0.55	13.22
		* — 12° 45′	30	46.9	49.0	50.3	0.1	1.3	..	3.7	4.8	14.5	15.9	17.8	32 2.43	0.12	50.29	18 31 12.02	13.21
		Weisse 792	31	40.2	42.3	43.6	53.3	54.4	55.7	56.9	58.0	7.7	8.9	10.9	33 55.63	0.13	50.29	18 33 5.21	13.21
		Weisse 874	32	42.1	44.4	45.6	55.4	56.5	57.7	59.0	59.9	9.6	10.7	12.8	36 57.61	0.13	50.29	18 36 7.19	13.06
	51	Cephei, S. P.	33	31.0	4.0	37.0	10.0	21.5	..	..	..	..	..	..	48 32.70	11 28.29	50.30	6 36 14.11	152.02
		Weisse 993	34	49.8	51.8	53.1	3.0	4.0	5.2	6.4	7.5	17.1	18.4	20.5	41 5.16	0.13	50.30	18 40 14.73	13.15
		Weisse 1314	35	14.8	16.8	18.1	28.1	29.1	30.2	31.6	32.6	42.3	43.6	45.6	53 30.25	— 0.13	50.30	18 52 39.82	13.13
		Weisse 1398	36	2.9	4.2	5.5	6.8	9.3		..	..	..	..	..	56 5.74	+ 33.79	50.30	18 55 49.23	12.60
	ζ	Aquilæ	37	50.9	52.9	54.0	4.0	5.0	6.2	7.5	8.6	18.3	19.6	21.6	0 6.24	— 0.26	50.30	18 59 15.68	10.46
	γ	Piscium	38	..	..	..	2.0	3.0	4.3	5.5	6.5	15.9	17.1	19.1	11 9.18	5.19	50.42	23 10 13.57	12.02
	μ	Piscium	†39	39.8	41.8	43.0	52.6	53.7	54.9	56.2	57.1	6.5	7.8	9.9	20 54.85	0.19	50.43	23 20 4.23	11.93
	ι	Piscium	40	39.4	41.5	42.6	52.4	53.5	54.6	55.8	56.9	6.3	7.6	9.7	33 54.57	— 0.22	50.43	23 33 3.92	11.95
	λ	Piscium	41	48.5	50.5	51.6	1.3	2.4	3.6	4.7	5.9	..	16.5	18.4	36 2.34	+ 0.97	50.43	23 35 12.88	11.95
	19	Piscium	42	8.6	10.6	11.8	21.3	22.5	23.8	24.9	25.9	35.4	36.7	38.7	40 23.65	— 0.21	50.43	23 39 33.01	11.95
	ω	Piscium	43	1.7	3.7	5.0	14.5	15.7	16.8	18.0	19.1	28.7	29.9	31.8	53 16.81	0.22	50.44	23 52 26.15	11.99
		Moon II	44	4.1	5.9	7.4	17.1	18.3	19.5	20.6	21.7	31.5	32.8	34.8	58 19.43	0.20	50.44	23 57 28.79	
	α	Andromedæ	45	2.2	4.4	5.6	16.8	18.0	19.3	20.9	22.0	32.5	34.0	36.2	2 19.26	0.38	50.44	0 1 28.44	11.70
	γ	Pegasi	46	55.8	57.9	59.2	9.0	10.1	11.4	12.7	13.7	23.4	24.8	26.8	7 11.35	0.27	50.45	0 6 20.63	11.94
Y. 10	d	Piscium	47	17.9	20.0	21.1	30.7	31.9	33.1	34.4	35.4	45.0	46.2	48.2	14 33.08	0.25	50.21	0 13 42.62	12.05
	44	Piscium	48	7.7	9.9	11.0	20.6	21.6	22.7	23.9	25.0	34.4	35.8	37.8	19 22.76	0.22	50.21	0 18 32.33	12.11
	12	Ceti	49	47.5	49.6	50.7	0.4	1.5	2.7	3.9	4.9	14.4	15.7	17.6	24 2.63	0.19	50.22	0 23 12.22	12.12
		Santini 30	50	37.0	39.0	40.1	49.8	50.9	52.0	53.2	54.3	3.7	5.0	7.0	27 52.00	— 0.22	—50.22	0 27 1.56	+ 12.15

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 9, 16.7	— 50.24	— 0.028	— 0.19
10, 4.1	— 50.37	— 0.042	— 0.21

39. Cloudy.

August 10, 0h. to 2h. n. $= -0.30$ s.
6h. to 8h. $+0.09$.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 10		Weisse 477 . . .	†1	10.8	12.9	14.1	23.7	24.8	25.9	27.1	28.1	. .	. .	. .	29 20.93	+ 4.73	—50.22	0 28 35.44	+ 12.16
Y.		* + 1° 2′ . . .	2	. .	50.4	51.6	1.2	2.1	3.4	4.5	5.6	. .	. .	. .	38 59.83	+ 3.30	50.23	0 38 12.90	12.20
		* + 1° 16′ . . .	3	. .	. .	. .	. .	. .	.	27.0	29.4	30.6	31.8	33.2	48 30.40	— 33.43	50.23	0 47 6.74	12.25
		Moon II . . .	4	42.0	44.1	45.3	55.2	56.3	57.5	58.7	59.7	9.5	10.9	12.8	55 57.45	0.24	50.24	0 55 6.97	. .
	e	Piscium	5	. .	. .	. .	1.7	3.1	5.1	20.0	22.5	23.6	24.8	26.2	57 15.88	26.15	50.24	0 55 59.49	12.36
		Polaris	6	. .	2.0	49.0	21.0	4.0	53.0	40.5	23.0	45.0	39.0	. .	11 50.72	21.10	50.25	1 10 39.37	36.57
	ν	Piscium	†7	2.8	5.0	6.1	15.8	16.8	18.0	19.3	20.3	29.7	31.0	33.0	35 17.98	0.24	50.27	1 34 27.47	12.60
	γ	Tauri	8	44.1	46.2	47.5	57.4	58.6	59.8	1.0	2.1	11.9	13.1	15.3	12 59.73	0.30	50.37	4 12 9.06	14.71
Tr.	*μ*	Geminorum . . .	9	23.9	26.1	27.3	37.8	38.9	40.2	41.5	42.8	52.7	54.1	56.3	15 40.15	0.19	50.59	6 14 49.37	+ 16.38
		Venus II . . .	10	45.3	47.2	48.7	58.9	0.1	1.5	2.7	3.8	13.8	15.3	17.5	22 1.35	0.19	50.59	6 21 10.57	— 0.68
	γ	Geminorum . . .	11	31.5	33.6	34.8	44.9	46.0	47.2	48.6	49.7	59.4	0.9	2.9	30 47.23	0.19	50.60	6 29 56.44	+ 15.72
	α	Canis Majoris . .	12	48.0	50.2	51.5	1.5	2.6	3.9	5.1	6.3	16.1	17.4	19.5	40 3.83	0.25	50.60	6 39 12.98	12.22
	α	Geminorum . . .	13	33.3	35.8	37.3	48.6	49.8	51.2	52.7	54.0	5.0	6.5	8.7	26 51.17	0.19	50.63	7 26 0.35	17.74
	α	Canis Minoris . .	14	51.0	53.1	54.3	3.9	4.9	6.1	7.4	8.4	18.0	19.2	21.3	33 6.15	0.20	50.63	7 32 15.32	14.49
	β	Geminorum . . .	15	38.1	40.5	41.8	52.7	53.9	55.2	56.6	57.8	8.4	10.1	12.3	37 55.22	0.19	50.63	7 36 4.40	17.04
11		Sun I	16	5.2	7.4	8.7	18.6	19.7	21.0	22.2	23.3	33.0	34.5	36.5	25 20.92	0.20	50.70	9 24 30.02	. .
		Sun II	17	16.8	19.0	20.1	30.1	31.3	32.5	33.7	34.9	44.5	45.9	48.0	27 32.44	0.20	50.70	9 26 41.54	. .
	β	Leonis	18	. .	. .	. .	14.6	15.9	17.9	33.3	35.7	37.0	38.2	39.6	43 29.03	— 26.85	50.77	11 42 11.41	14.13
Y.		Polaris, S. P. . .	19	38.0	15.5	27.5	56.5	12.5	26.0	37.5	57.5	34.5	40.0	21.0	11 27.86	+ 5.28	50.77	1 10 42.37	36.17
	ζ	Virginis	20	26.8	28.9	29.9	39.6	40.6	41.8	43.0	44.1	53.5	54.8	56.8	28 41.80	— 0.22	50.78		13.43
Tr.	*ε*	Ursæ Minoris . .	21	. .	. .	. .	30.0	37.0	46.5	55.0	2.4	. .	. .	. .	0 46.18	1.31	50.95	16 59 53.92	30.52
	α	Herculis	22	8.0	10.0	11.2	21.2	22.2	23.5	24.7	25.7	35.6	36.8	38.9	9 23.44	0.20	50.96	17 8 32.28	10.89
		Jupiter I . . .	23	15.4	17.0	18.3	19.6	22.2	. .	27.4	29.8	31.2	32.5	34.0	13 54.74	0.03	50.96	17 13 3.75	. .
		Jupiter II . . .	24	41.7	43.9	45.3	55.9	56.9	58.1	59.5	0.6	10.7	12.0	14.2	13 58.07	— 0.28	50.96	17 13 6.83	. .
	α	Ophiuchi . . .	25	18.8	20.9	22.1	31.9	33.0	34.3	. .	. .	46.2	47.6	49.6	29 33.82	+ 0.19	50.97	17 28 43.04	10.99
		O. Arg. S. 17510 .	26	. .	. .	. .	. .	. .	. .	50.3	52.8	54.1	55.4	56.9	55 53.90	— 36.69	50.99	17 54 26.22	14.57
	7	Sagittarii . . .	27	13.4	15.7	17.0	27.5	28.7	30.0	31.3	32.3	42.8	44.2	46.3	55 29.93	0.28	50.98	17 54 38.67	14.57
	g	Sagittarii . . .	28	14.4	16.5	17.9	. .	. .	. .	. .	. .	43.8	45.4	47.4	56 30.83	0.24	50.99	17 55 39.60	14.56
		O. Arg. S. 17540 .	29	. .	. .	. .	33.2	34.3	35.6	37.0	38.1	. .	. .	. .	56 35.64	0.33	50.99	17 55 44.32	14.56
		O. Arg. S. 17555 .	30	. .	. .	. .	1.8	3.0	4.3	5.6	6.7	. .	. .	. .	57 4.28	0.33	50.99	17 56 12.96	14.56
		O. Arg. S. 17560 .	31	. .	. .	. .	19.4	20.8	22.9	39.4	42.0	43.2	44.4	45.9	57 34.75	28.47	50.99	17 56 15.29	14.56
		B. A. C. 5111 . .	32	. .	. .	. .	1.8	3.2	5.3	21.7	24.2	25.5	26.8	28.3	58 17.10	28.47	50.99	17 56 57.64	14.56
		O. Arg. S. 18090 .	33	. .	. .	. .	13.4	14.5	15.7	17.0	18.2	. .	. .	. .	14 15.76	0.30	50.99	18 13 25.47	13.54
		O.Arg.S.18115,(1st*)	34	47.0	48.4	49.8	51.0	53.5	. .	56.0	58.2	59.4	0.7	2.1	15 24.61	0.02	51.00	18 14 33.59	13.54
		O.Arg.S.18115,(2d*)	35	9.8	12.0	13.2	23.1	24.2	25.4	26.6	27.6	37.6	38.9	40.9	15 25.39	— 0.25	51.00	18 14 34.14	+ 13.54
	δ	Ursæ Minoris . .	36	32.0	55.5	17.0	37.0	19.0	. .	. .	. .	. .	. .	. .	7 20.10	+ 9 26.88	50.99	18 15 55.99	— 98.58
		Dorpat 2313, (1st *)	37	7.4	9.3	10.6	. .	. .	. .	. .	. .	34.2	35.5	37.4	18 22.40	— 0.19	51.00	18 17 31.21	+ 12.67
		Dorpat 2313, (2d *)	38	. .	. .	. .	20.3	21.4	22.5	23.9	24.8	. .	. .	. .	18 22.58	— 0.28	51.00	18 17 31.30	12.67
		Dorpat 2316, (1st *)	39	36.1	37.4	38.7	40.0	42.4	. .	42.3	44.8	45.9	47.1	48.6	21 12.33	+ 0.01	51.00	18 20 21.34	12.00
		Dorpat 2316, (2d *)	40	57.7	59.8	1.0	10.5	11.6	12.8	14.0	15.0	24.5	25.7	27.6	21 12.75	— 0.22	51.00	18 20 21.53	12.00
1		Aquilæ	41	31.3	33.3	34.6	44.3	45.3	46.5	47.8	48.7	58.3	59.6	1.5	28 46.47	0.23	51.01	18 27 55.23	12.77
		Weisse 696 . . .	42	36.3	38.4	39.6	49.5	50.5	51.7	53.0	54.0	3.8	5.1	7.1	30 51.73	0.25	51.01	18 30 0.47	13.23
		Weisse 779 . . .	43	6.5	8.6	9.8	19.6	20.6	21.9	23.2	24.3	33.8	35.1	37.2	33 21.87	0.24	51.01	18 32 30.62	13.07
		Weisse 792 . . .	44	. .	. .	. .	. .	. .	. .	27.1	29.4	30.7	32.0	33.4	34 30.52	34.28	51.01	18 33 5.23	13.22
		Weisse 874 . . .	45	40.5	42.5	43.8	53.5	54.6	55.9	57.0	58.1	7.0	9.0	11.0	36 55.78	0.24	51.01	18 36 4.53	13.08
		Weisse 971 . . .	46	. .	. .	. .	18.1	19.2	20.4	21.6	22.6	. .	. .	. .	40 20.38	0.30	51.01	18 39 30.07	13.16
		Weisse 993 . . .	47	50.7	52.8	53.9	3.8	4.8	6.1	7.3	8.3	18.0	19.4	21.3	41 6.04	— 0.25	51.01	18 40 14.78	13.16
		* + 33° 12′ . .	48	18.3	20.0	21.6	23.0	25.8	. .	37.6	40.3	41.7	43.3	44.9	45 1.65	+ 0.06	51.01	18 44 10.71	8.02
	β	Lyræ	49	42.0	44.5	45.9	57.6	58.7	0.0	1.6	2.8	14.1	15.6	18.0	45 0.07	— 0.21	51.01	18 44 8.85	8.01
		Weisse 1219 . .	50	20.7	. .	23.8	33.6	34.7	36.0	37.1	38.2	47.9	. .	51.0	49 35.89	— 0.24	—51.02	18 48 44.63	+ 12.84

1. Cloudy.
7. Cloudy.

August 11, n. = —0.05.

August 11. 8h. Image west 0.52. Clamp west.
Image east 0.18. Clamp east.
Changed the collimation.
9h. Image west 0.10. Clamp east.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
h.	s.	s.	s.
Aug. 11, 15.4	— 50.90	— 0.034	— 0.22

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 11 Tr.	Weisse 1314	1	15.7	17.7	19.0	28.9	30.0	31.2	32.4	33.4	43.1	44.5	46.5	53 31.13	— 0.25	—51.02	18 52 39.86	+ 13.14
	*—7° 31′	2	3.3	5.5	6.6	16.4	17.5	18.6	19.7	20.7	30.3	31.6	33.6	56 18.53	0.23	51.02	18 55 27.28	12.62
	Weisse 1398	3	. .	. .	. .	38.4	39.4	40.6	41.8	42.9	52.4	53.8	55.7	56 45.63	5.26	51.02	18 55 49.35	12.62
	Weisse 1412	4	4.4	5.5	6.6	7.8	8.8	. .	36.6	39.0	40.1	41.4	42.8	57 23.30	16.99	51.02	18 56 15.29	12.62
	O.Arg.S.19083,(1st*)	5	23.5	24.9	26.2	27.5	29.9	. .	32.5	34.8	36.0	37.4	39.0	0 1.17	0.02	51.02	18 59 10.13	13.48
	O.Arg.S.19083,(2d *)	6	45.8	47.9	49.2	59.1	0.3	1.5	2.7	3.8	13.7	14.9	17.0	0 1.45	0.26	51.02	18 59 10.17	13.48
	*—8° 3′	7	55.9	57.9	59.1	8.8	9.9	11.2	12.3	13.4	23.0	24.2	26.2	4 11.08	0.24	51.03	19 3 19.81	12.64
	*—8° 6′	8	35.5	37.6	38.8	48.5	49.6	50.8	52.0	53.2	2.6	3.8	5.8	4 50.75	0.24	51.03	19 3 59.48	12.64
	δ Aquilæ	9	21.2	23.3	24.4	34.1	35.1	36.3	37.6	38.6	48.0	49.3	51.2	19 36.28	0.22	51.03	19 18 45.03	11.61
	Polaris	10	. .	. .	. .	11.0	54.0	40.0	29.0	11.0	. .	. .	. .	11 41.00	7.15	51.23	1 10 42.62	35.77
	θ Ceti	11	55.7	57.7	59.0	8.7	9.7	11.0	12.2	13.2	22.8	24.1	26.2	18 10.94	0.24	51.24	1 17 19.46	12.12
	η Piscium	12	54.9	56.9	58.3	8.1	9.2	10.4	11.6	12.7	22.5	23.8	25.9	25 10.39	0.20	51.24	1 24 18.95	12.76
	Weisse 468	13	28.7	30.7	31.9	41.9	43.0	44.3	45.6	46.6	56.3	57.6	59.6	28 44.20	— 0.20	51.24	1 27 52.76	12.82
	Weisse 578	14	44.2	45.7	47.0	48.3	50.7	. .	52.9	55.2	56.5	57.8	59.2	34 21.75	+ 0.03	51.25	1 33 30.53	12.88
	o Piscium	15	55.4	57.4	58.6	8.5	9.5	10.6	11.8	12.8	22.3	23.6	25.7	39 10.56	— 0.21	51.25	1 38 19.10	12.76
	Moon II	16	44.5	46.5	47.7	57.9	59.0	0.2	1.6	2.7	12.3	13.8	15.8	54 0.18	0.21	51.26	1 53 8.71	. .
	*+22° 29′	17	. .	. .	. .	8.2	9.6	11.8	27.7	30.2	31.6	32.9	34.4	0 23.30	28.01	51.26	1 59 4.03	13.51
	ξ¹ Ceti	18	30.0	32.0	33.2	42.9	43.9	45.1	46.4	47.5	56.9	58.2	0.2	6 45.12	— 0.21	51.26	2 5 53.65	12.95
Y. 12	Sun I	†19	. .	. .	. .	5.8	6.9	8.2	9.4	10.4	. .	. .	. .	29 8.14	+ 0.05	. .		. .
	Sun II	†20	42.0	43.3	44.6	45.9	48.4	. .	. .	. .	. .	. .	. .	30 44.84	+ 34.42	. .		. .
	B. A. C. 5960	21	. .	. .	. .	7.6	8.8	10.1	11.4	12.8	. .	. .	. .	32 10.14	— 0.02	51.56	17 31 18.56	15.56
	*—32° 5′	22	. .	. .	. .	48.6	49.8	51.2	52.6	53.8	. .	. .	. .	32 51.20	0.02	51.56	17 31 59.62	15.56
	B. A. C. 5964	23	. .	. .	. .	3.5	4.8	6.2	7.5	8.8	. .	. .	. .	33 6.16	0.02	51.56	17 32 14.58	15.56
	*—32° 5′	24	28.4	30.7	32.2	43.4	44.6	46.0	47.4	48.6	0.0	1.4	3.7	33 46.04	— 0.07	51.56	17 32 54.41	15.56
	Weisse 697	25	. .	. .	. .	32.9	33.9	35.1	36.3	37.5	. .	. .	. .	37 35.14	+ 0.02	51.56	17 36 43.60	12.97
	Weisse 713	26	54.5	56.5	57.8	7.3	8.3	9.5	10.7	11.8	21.5	22.7	24.8	38 9.58	— 0.03	51.56	17 37 17.99	12.95
	Weisse 755	27	51.6	53.5	54.8	4.2	5.3	6.5	7.7	8.8	18.5	19.7	21.7	40 6.57	0.03	51.56	17 39 14.98	12.98
	Weisse 779	28	. .	. .	. .	41.5	42.5	43.7	45.0	45.9	55.9	57.0	59.0	40 48.81	5.03	51.56	17 39 52.22	12.96
	B. A. C. 6046	29	6.2	8.6	10.0	21.6	22.7	24.2	25.7	26.8	38.5	39.9	42.4	46 24.24	0.08	51.56	17 45 32.60	15.84
	*—34° 35′	30	. .	. .	. .	58.9	0.4	2.8	21.3	24.2	25.7	27.2	28.8	47 16.16	31.67	51.56	17 45 52.93	15.85
	*—34° 35′	31	. .	. .	. .	. .	. .	. .	14.3	17.0	18.5	20.2	21.9	49 18.38	40.94	51.56	17 47 45.88	15.86
	*—36° 51′	32	. .	. .	. .	34.5	35.9	37.4	38.7	40.1	. .	. .	. .	50 37.32	0.03	51.56	17 49 45.73	16.14
	B. A. C. 6070	33	. .	. .	. .	56.1	57.6	0.1	19.0	22.1	23.6	25.2	26.8	51 13.81	32.59	51.56	17 49 49.66	16.14
	Lacaille 7516	34	. .	. .	. .	. .	. .	. .	36.5	39.4	41.0	42.6	44.3	51 40.80	42.18	51.56	17 50 7.06	16.15
	*—36° 58′	35	. .	. .	. .	. .	. .	. .	2.3	5.2	6.8	8.5	10.0	53 6.56	— 42.19	51.56	17 51 32.81	16.15
	Weisse 1174	36	. .	. .	. .	31.8	32.9	34.2	35.3	36.4	. .	. .	. .	57 34.12	+ 0.03	51.56	17 56 42.59	11.86
	70 Ophiuchi, (1st *)	37	56.7	58.2	59.4	0.5	2.7	. .	. .	. .	. .	. .	. .	58 59.50	+ 33.21	51.56	17 58 41.15	11.85
	70 Ophiuchi, (2d *)	38	18.1	20.1	21.3	30.9	31.9	33.0	34.1	35.3	45.0	46.1	48.1	59 33.08	— 0.02	51.56	17 58 41.50	11.85
	*+2° 32′	39	59.2	1.1	2.4	11.9	12.9	14.1	15.2	16.2	26.0	27.1	29.2	2 14.12	0.02	51.57	18 1 22.53	11.84
	*+2° 32′	40	40.6	41.9	43.2	44.4	46.7	. .	46.7	49.2	50.5	51.7	53.0	2 16.80	0.25	51.57	18 1 24.98	11.84
	Weisse 18	41	20.8	22.8	24.1	33.5	34.5	35.7	36.9	38.0	47.6	48.8	50.9	3 35.78	0.02	51.57	18 2 44.19	11.84
	O. Arg. S. 17817	42	15.4	17.4	18.7	28.9	30.1	31.3	32.5	33.6	44.0	45.2	47.3	5 31.31	0.05	51.57	18 4 39.69	14.18
	μ Sagittarii	43	20.8	22.9	24.3	34.4	35.5	36.7	38.0	39.2	49.5	50.7	52.9	6 36.81	0.05	51.57	18 5 45.19	14.18
	B. A. C. 6191	44	. .	. .	. .	59.3	0.7	3.0	20.4	23.1	24.5	25.9	27.4	10 15.54	29.63	51.57	18 8 54.34	14.99
	*—28° 25′	45	6.8	9.0	10.5	21.2	22.3	23.7	25.0	26.2	37.3	38.6	40.8	13 23.76	— 0.07	51.57	18 12 32.12	+ 14.99
	δ Ursæ Minoris	46	. .	. .	. .	7.0	23.0	44.0	4.0	21.5	. .	. .	. .	16 43.90	+ 1.79	51.57		— 98.97
	Dorpat 2316, (1st *)	47	36.9	38.2	39.4	40.6	43.0	. .	42.9	45.4	46.6	47.9	49.2	21 13.01	— 0.25	51.57	18 20 21.19	+ 12.01
	Dorpat 2316, (2d *)	48	58.1	0.0	1.3	10.8	11.8	13.0	14.1	15.2	24.9	26.0	27.9	21 13.01	0.02	51.57	18 20 21.42	12.01
	1 Aquilæ	49	31.6	33.6	34.9	44.5	45.5	46.7	47.9	49.0	58.6	59.8	1.5	28 46.73	— 0.03	—51.57	18 27 55.13	+ 12.78

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 12, 23.7	— 51.65	— 0.015	— 0.02

19. Cloudy.
20. Cloudy.

August 12, n. = +0.08.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 12	Weisse 696	1	..	..	..	4.1	5.2	7.4	23.0	25.4	26.7	28.1	29.4	31 18.66	— 26.71	—51.57	18 30 0.38	+ 13.24
Y.	Weisse 792	2	41.3	43.4	44.7	54.5	55.4	56.7	57.9	59.0	8.8	10.0	12.2	33 56.72	0.04	51.57	18 33 5.11	13.23
	51 Cephei, S. P.	3	..	..	..	20.0	41.0	5.2	31.5	50.0	..	..	..	37 5.54	2.19	51.57	6 36 11.78	151.03
	Weisse 993	4	51.0	53.0	54.3	4.0	5.1	6.3	7.5	8.6	18.4	19.6	21.7	41 6.32	0.04	51.57	18 40 14.71	13.17
	β Lyræ	5	..	..	..	57.3	58.8	0.2	1.6	3.0	14.5	15.8	18.4	46 6.20	5.89	51.58	18 45 8.83	8.02
	12 Ceti	6	48.9	50.9	52.2	1.7	2.7	3.8	4.9	6.0	15.7	16.8	18.8	24 3.85	0.03	51.66	0 23 12.16	12.08
	Santini 30	7	38.2	40.2	41.4	50.8	51.8	53.1	54.3	55.3	5.0	6.1	8.1	27 53.12	0.02	51.66	0 27 1.44	12.12
	(* 127) W.	8	21.3	23.3	24.5	33.9	34.9	36.2	37.4	38.3	47.9	49.2	51.2	29 36.19	0.02	51.66	0 28 44.51	12.12
	B. A. C. 167	9	50.0	52.0	53.3	2.6	3.6	4.8	5.9	7.0	16.7	17.9	19.9	33 4.88	0.02	51.66	0 32 13.20	12.14
	Weisse 616	10	58.0	59.8	1.1	10.7	11.7	12.8	14.0	15.0	24.7	26.0	28.1	37 12.90	0.01	51.66	0 36 21.23	12.18
	* + 2° 28′	11	38.6	40.5	41.7	51.2	52.3	53.5	54.6	55.7	5.3	6.4	8.6	38 53.49	0.02	51.66	0 38 1.81	12.17
	Neptune	12	5.6	7.7	8.8	18.3	19.2	20.5	21.7	22.7	32.3	33.5	35.6	41 20.54	0.02	51.66	0 40 28.86	..
	* + 3° 0′	13	9.7	11.7	12.8	22.3	23.3	24.5	25.7	26.7	36.5	37.7	39.6	43 24.59	0.02	51.66	0 42 32.91	12.20
	Weisse 786	14	19.7	21.7	22.9	32.7	33.6	34.7	36.0	37.2	46.1	48.1	49.9	46 34.85	0.01	51.67	0 45 43.17	12.28
	Weisse 807	15	27.7	29.8	31.1	40.6	41.6	42.9	44.1	45.2	55.1	56.1	58.3	47 42.95	0.01	51.67	0 46 51.27	12.29
	Lacaille 1737	16	19.5	21.5	22.7	32.1	33.1	34.3	35.6	36.7	46.5	47.6	49.9	54 34.50	0.01	51.67	0 53 42.82	12.34
	Weisse 947	17	..	..	..	..	..	..	6.0	8.4	9.6	10.8	12.3	56 9.42	34.07	51.67	0 54 43.68	12.35
	Weisse 946	18	25.3	27.3	28.5	38.1	39.1	40.3	41.5	42.6	52.4	53.6	55.7	55 40.40	— 0.01	51.67	0 54 48.72	12.35
	* — 12° 19′	19	59.7	1.8	3.1	12.8	13.8	15.0	16.2	17.3	27.2	28.3	30.5	6 15.06	0.00	51.67	1 5 23.39	12.50
	Polaris	20	..	..	..	0.0	40.0	29.0	17.0	59.5	..	..	..	11 29.10	+ 4.31	51.67		34.93
	Lalande 2410	21	..	..	..	36.9	38.2	40.2	55.8	58.2	59.5	0.8	2.2	14 51.48	— 26.67	51.67	1 13 33.14	12.60
	θ Ceti	22	56.0	58.1	59.4	8.8	9.8	11.1	12.4	13.4	23.0	24.4	26.4	18 11.16	0.03	51.67	1 17 19.46	12.10
	Weisse 381	23	44.7	46.7	48.0	57.5	58.5	59.8	1.0	2.0	11.7	12.9	14.9	23 59.79	0.03	51.67	1 23 8.09	12.20
	Weisse 402	24	59.7	1.7	2.9	12.6	13.5	14.7	16.0	17.0	26.7	27.8	29.9	25 14.77	0.03	51.68	1 24 23.06	12.21
	Weisse 468	25	29.1	31.1	32.5	42.1	43.2	44.5	45.6	46.8	56.8	58.0	0.0	28 44.52	0.00	51.68	1 27 52.84	12.79
	Weisse 578	26	6.8	8.9	10.1	19.9	20.9	22.1	23.4	24.4	34.6	35.7	37.8	34 22.23	0.00	51.68	1 33 30.55	12.86
	o Piscium	27	55.8	57.7	59.0	8.5	9.4	10.7	11.9	13.0	22.8	24.0	26.0	39 10.80	0.01	51.68	1 38 19.11	12.73
	ξ^1 Ceti	28	30.4	32.4	33.7	43.2	44.2	45.5	46.6	47.7	57.4	58.5	0.7	6 45.48	0.01	51.69	2 5 53.78	12.92
	ξ^2 Ceti	29	38.6	40.5	41.8	51.4	52.3	53.5	54.7	55.8	5.6	6.7	8.6	21 53.59	— 0.01	51.69	2 21 1.89	13.06
	Moon II	30	24.1	26.0	27.4	37.4	38.6	39.8	41.1	42.2	52.3	53.5	55.7	52 39.83	0.00	51.70	2 51 48.13	..
	δ Aquilæ	31	33.5	35.6	37.0	46.9	48.1	49.4	50.6	51.8	1.9	3.1	5.3	4 49.38	+ 0.01	51.70	3 3 57.69	14.24
	ζ Arietis	32	47.5	49.5	50.9	0.9	1.9	3.1	4.5	5.7	16.0	17.2	19.3	8 3.32	0.01	51.70	3 7 11.63	+ 14.31
Tr. 14	δ Ursæ Minoris	33	..	..	..	8.0	26.0	46.0	6.5	23.4	..	..	..	16 45.98	+ 1.25	52.34		— 97.60
	Weisse 570	34	..	..	..	56.0	57.4	59.4	14.6	16.8	18.2	19.4	20.8	26 10.33	— 26.18	52.34	18 24 51.81	+ 13.14
	1 Aquilæ	35	..	..	..	45.2	46.3	47.5	48.7	49.8	59.4	0.6	2.6	28 52.51	5.01	52.34	18 27 55.16	12.80
	Weisse 696	36	..	..	..	50.6	51.7	52.9	54.1	55.4	4.8	6.2	8.1	30 57.97	— 5.09	52.34	18 30 0.54	13.26
	Weisse 792	37	42.1	44.1	..	55.2	56.3	57.5	58.8	59.8	..	10.7	12.9	33 57.50	+ 0.01	52.34	18 33 5.17	13.25
	Weisse 993	38	51.7	53.8	55.0	..	..	..	..	..	19.1	20.4	22.4	41 7.07	0.06	52.34	18 40 14.79	13.18
	β Lyræ	39	43.0	45.4	46.8	58.4	59.6	1.0	2.5	3.9	4.8	6.5	8.9	46 0.98	0.10	52.34	18 45 8.74	8.04
	γ Aquilæ	40	31.0	33.0	34.3	44.0	45.0	46.3	47.5	48.5	58.1	59.4	1.4	40 46.23	0.06	52.32	19 39 53.97	10.78
	α Aquilæ	41	52.4	54.4	55.7	5.3	6.3	7.5	8.8	9.8	19.2	20.7	22.7	45 7.53	0.05	52.32	19 44 15.26	11.10
	β Aquilæ	42	21.6	23.7	24.8	34.4	35.6	36.7	37.9	38.9	48.5	49.7	51.6	49 36.67	0.05	52.32	19 48 44.40	11.20
Y.	α Canis Minoris	43	52.0	54.0	..	..	..	7.2	8.4	9.5	..	..	..	33 2.22	4.97	51.70	7 32 15.49	14.42
	β Geminorum	44	39.3	41.5	42.9	..	..	..	..	..	9.4	10.9	13.2	36 56.20	0.13	51.70	7 36 4.63	16.83
15	μ Sagittarii	45	20.9	23.2	24.4	34.7	35.8	37.1	38.3	39.4	49.4	50.9	53.0	6 37.01	0.01	51.94	18 5 45.08	14.20
	* — 18° 37′	46	35.2	37.4	38.6	48.8	49.8	51.1	52.4	53.6	3.5	4.7	6.9	9 51.09	0.02	51.94	18 8 59.17	13.95
	O.Arg.S.18015,(1st*)	47	4.7	6.0	7.3	8.6	11.3	..	14.6	17.1	18.4	19.7	21.0	11 42.87	0.26	51.95	18 10 51.18	13.95
	O.Arg.S.18015,(2d *)	48	28.3	30.4	31.6	41.9	43.0	44.3	45.6	46.6	56.6	57.8	59.8	11 44.17	0.02	51.95	18 10 52.24	+ 13.95
	δ Ursæ Minoris	49	..	..	..	5.2	23.0	43.5	4.0	21.0	..	..	..	16 43.34	1.25	51.95		— 97.24
	Weisse 570	50	28.2	30.2	31.4	41.2	42.4	43.5	44.8	45.8	55.5	56.8	58.8	25 43.51	+ 0.03	—51.95	18 24 51.59	+ 13.15

August 14–15, n. = + 0.08.

August 14, 11h. Image west 0.09. Clamp east.
Image west 0.04. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 14, 19.3	— 52.33	+ 0.014	+ 0.04
15, 15.3	— 51.88	— 0.023	

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 15	1	Aquilæ	1	31.8	34.0	35.2	44.8	45.8	47.1	48.4	49.3	58.9	0.1	2.1	28 47.05	+ 0.03	—51.95	18 27 55.13	+ 12.81
Y.		O.Arg.S.18506,(1st*)	2	43.6	45.0	46.5	47.9	50.6	. .	57.2	59.8	1.1	2.5	3.9	32 23.81	0.26	51.95	18 31 32.12	14.61
		O.Arg.S.18506,(2d *)	3	10.9	13.2	14.5	. .	. .	. .	. .	. .	40.6	41.9	44.3	32 27.57	0.05	51.95	18 31 35.67	14.61
		O.Arg.S.18506,(3d *)	4	. .	. .	. .	25.4	26.7	27.9	29.3	30.4	. .	. .	. .	32 27.94	0.06	51.95	18 31 36.05	14.61
		* — 11° 13′	5	38.7	40.9	42.1	51.8	52.9	54.0	55.3	56.3	6.1	7.3	9.4	35 54.07	+ 0.03	51.96	18 35 2.14	13.02
	51	Cephei, S. P.	6	45.5	17.7	51.0	26.0	35.0	20.5	38.5	14.5	. .	. .	. .	46 8.59	— 9 2.38	51.96	6 36 14.25	142.78
		* — 18° 58′	7	53.9	56.2	57.4	7.6	8.7	9.9	11.1	12.2	22.3	23.6	25.8	0 9.88	+ 0.02	51.96	18 59 17.94	13.76
		* — 23° 25′	8	57.9	0.0	1.5	11.8	12.9	14.2	15.5	16.6	27.0	28.2	30.4	4 14.18	0.01	51.97	19 3 22.22	14.21
		O. Arg. S. 19256	9	11.6	13.7	15.0	25.5	26.6	27.8	29.1	30.2	40.6	41.9	44.1	6 27.83	0.01	51.97	19 5 35.87	14.14
		O. Arg. S. 19674	10	58.7	0.9	2.2	12.8	13.8	15.2	16.4	17.6	27.8	29.2	31.4	25 15.09	+ 0.01	51.97	19 24 23.13	14.05
		O. Arg. S. 19737	11	. .	. .	. .	30.2	31.5	32.8	34.3	35.4	. .	. .	. .	28 32.84	— 0.05	51.98	19 27 40.83	14.06
		O. Arg. S. 19746	12	. .	40.5	41.8	52.9	54.0	55.5	56.9	58.0	8.8	10.2	. .	28 55.40	— 0.01	51.98	19 28 3.41	14.06
		* — 24° 0′	13	36.7	39.0	40.4	50.9	52.0	53.4	54.6	55.8	6.1	7.4	9.7	33 53.27	+ 0.01	51.98	19 33 1.30	14.10
		* — 23° 59′	14	. .	15.8	17.2	27.7	28.9	30.3	31.5	32.7	43.0	45.3	. .	34 30.27	0.00	51.98	19 33 38.29	14.10
		* + 5° 50′	15	.	. .	. .	21.1	22.4	24.5	39.5	41.8	43.1	44.4	. .	37 33.83	— 24.60	51.98	19 36 17.25	11.24
		Dorpat 2566	16	15.1	17.0	18.3	28.1	29.1	30.3	31.5	32.5	42.0	43.2	45.3	38 30.22	+ 0.05	51.98	19 37 38.29	11.24
	γ	Aquilæ	17	30.4	32.7	33.9	43.6	44.6	45.8	47.0	48.0	57.7	58.9	1.0	40 45.78	0.06	51.98	19 39 53.86	10.78
		Weisse 1068	18	31.3	33.4	34.6	44.7	45.7	46.9	48.2	49.3	59.0	0.3	2.4	43 46.89	0.02	51.98	19 42 54.93	13.10
		Weisse 1150	19	46.8	49.0	50.3	0.1	1.2	2.5	3.8	4.9	14.5	15.8	17.9	47 2.44	+ 0.02	51.98	19 46 10.48	13.10
		Weisse 1187	20	. .	. .	. .	38.6	39.8	41.8	57.3	59.6	0.8	2.1	3.4	48 52.93	— 26.48	51.98	19 47 34.47	13.07
		* — 23° 9′	21	15.1	17.3	18.7	28.9	30.2	31.5	32.8	33.9	44.2	45.4	47.6	53 31.42	+ 0.08	51.98	19 52 39.52	13.09
		Dorpat 2613, (1st *)	22	18.4	19.8	21.1	22.5	24.8	. .	25.9	28.4	29.6	30.9	32.2	55 55.36	0.29	51.98	19 55 3.67	10.80
		Dorpat 2613, (2d *)	23	40.3	42.4	43.5	53.5	54.6	55.8	56.9	58.0	7.4	8.8	10.9	55 55.65	0.06	51.98	19 55 3.73	+ 10.80
	λ	Ursæ Minoris	24	. .	. .	. .	34.0	24.5	29.0	31.0	20.0	. .	. .	. .	0 27.70	3.89	51.99		— 324.17
		O. Arg. S. 20320	25	13.5	15.7	16.9	27.0	28.1	29.4	30.6	31.8	41.6	42.8	45.0	6 29.31	0.02	51.99	20 5 37.34	+ 13.26
	a^2	Capricorni	26	14.1	16.2	17.4	27.2	28.3	29.6	30.7	31.8	41.5	42.8	44.9	11 29.50	0.02	51.99	20 10 37.53	12.85
		O. Arg. S 20423	27	54.3	56.5	57.7	7.8	8.9	10.1	11.4	12.4	22.3	23.6	25.7	14 10.06	+ 0.02	51.99	20 13 18.09	13.22
		* — 16° 2′	28	. .	. .	. .	. .	. .	. .	27.5	29.9	31.1	32.3	33.9	16 30.94	— 34.51	51.99	20 15 4.44	13.10
	γ	Piscium	29	50.4	52.4	53.8	3.3	4.3	5.4	6.7	7.7	17.3	18.5	20.5	11 5.48	+ 0.04	51.84	23 10 13.68	11.92
		Radcliffe 6067	30	14.1	17.5	19.8	36.1	37.9	40.0	42.0	43.7	0.0	2.3	5.4	19 39.89	0.18	51.84	23 18 48.23	8.24
	ι	Piscium	31	40.7	42.9	44.0	53.7	54.8	55.9	57.0	58.1	7.7	8.7	10.9	33 55.85	+ 0.05	51.84	23 33 4.06	11.84
		* + 2° 28′	32	. .	. .	. .	5.4	6.6	8.6	23.6	25.9	27.1	28.3	29.6	39 19.39	— 25.68	51.83	0 38 1.88	12.40
		Neptune	†33	8.1	9.3	10.3	11.6	12.7	. .	40.1	42.4	43.5	44.8	46.0	41 26.88	— 16.60	51.83	0 40 18.45	. .
		Weisse 775	34	38.6	40.6	41.7	51.3	52.4	53.6	54.7	55.9	5.3	6.5	8.5	45 53.55	+ 0.05	51.83	0 45 1.77	12.15
		Weisse 845	35	49.8	51.9	53.1	2.8	3.8	4.9	6.1	7.3	16.8	17.9	19.8	50 4.93	0.03	51.82	0 49 13.14	12.08
		Weisse 928	36	32.0	34.1	35.3	45.0	45.9	47.0	48.3	49.3	58.8	0.2	2.1	54 47.09	0.05	51.82	0 53 55.32	12.21
	ε	Piscium	37	36.2	38.3	39.4	49.2	50.2	51.4	52.7	53.6	3.2	4.5	6.4	56 51.37	0.05	51.82	0 55 59.60	12.24
		Polaris	38	19.0	45.0	33.0	5.0	. .	37.5	25.5	6.0	28.5	20.5	37.0	11 37.70	0.26	51.82		32.46
Tr. 16		Sun I	39	54.3	56.4	57.6	7.5	8.6	9.8	11.1	12.0	21.8	23.2	24.9	44 9.75	0.07	51.83	9 43 17.99	. .
		Sun II	40	5.2	7.0	8.4	18.2	19.3	20.5	21.7	22.9	32.6	33.8	35.9	46 20.50	0.07	51.83	9 45 28.74	. .
Y.		Polaris, S. P.	41	. .	. .	. .	16.0	33.0	44.5	55.0	13.0	49.0	59.0	39.5	8 23.62	3 16.38	51.70	1 10 48.30	32.08
	α	Virginis	42	43.4	45.5	46.6	56.5	57.5	58.7	0.0	1.0	10.5	11.8	14.0	18 58.68	0.02	. .		13.86
Tr.	α	Herculis	43	8.5	10.6	11.8	21.7	22.9	24.2	25.5	26.5	36.2	37.6	39.5	9 24.09	0.07	51.98	17 8 32.18	10.97
		Jupiter I	44	9.6	11.0	12.4	13.8	16.4	. .	21.5	24.0	25.3	26.6	28.2	13 48.88	+ 0.25	51.98	17 12 57.15	. .
		Jupiter II	45	35.8	38.1	39.4	50.0	51.0	52.2	53.6	54.7	15.0	16.4	18.4	13 52.24	0.00	51.98	17 13 0.26	. .
	δ	Ophiuchi	46	46.8	49.0	50.3	0.9	2.0	3.2	4.6	5.7	16.0	17.4	19.5	19 3.22	0.00	51.98	17 18 11.24	14.69
		Lacaille 7684	47	59.6	1.9	3.4	15.5	16.7	18.2	19.6	20 9	32.7	34.2	36.7	15 18.13	— 0.03	52.00	18 14 26.10	+ 16.03
	δ	Ursæ Minoris	48	. .	. .	. .	8.0	24.5	45.0	6.0	22.0	. .	. .	. .	16 45.10	+ 1.76	52.00	18 15 54.86	— 96.86
		Dorpat 2316, (1st *)	49	36.6	38.0	39.3	40.5	42.9	. .	43.1	45.3	46.4	47.7	49.2	21 12.90	0.27	52.00	18 20 21.17	+ 12.06
		Dorpat 2316, (2d *)	50	58.2	0.2	1.5	11.1	12.2	13.4	14.6	15.6	25.0	26.2	28.3	21 13.30	+ 0.04	—52.00	18 20 21.34	+ 12.06

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 15, 3.2	— 51.80	+ 0.010	+ 0.04
16, 17.8	— 51.99	— 0.020	

33. Faint.

August 16, n. = +0.11 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 16 Tr.	Weisse 473	1	. .	. .	. .	2.5	3.8	5.7	20.5	22.8	24.0	25.3	26.6	22 16.40	— 25.66	—52.00	18 20 58.74	+ 12.06
	Weisse 570	2	28.2	30.3	31.6	41.4	42.5	43.6	44.9	45.9	55.5	56.8	58.8	25 43.59	+ 0.02	52.00	18 24 51.61	13.16
1	Aquilæ	3	31.9	33.9	35.1	44.8	45.9	47.1	48.3	49.4	58.9	0.1	2.2	28 47.06	0.03	52.00	18 27 55.09	12.81
	Weisse 696	4	37.1	39.0	40.3	50.1	51.2	52.4	53.7	54.7	4.4	5.6	7.7	30 52.38	0.02	52.00	18 30 0.40	13.28
	Weisse 779	5	7.0	9.2	10.4	20.2	21.3	22.5	23.8	24.7	34.3	35.7	37.7	33 22.44	+ 0.02	52.01	18 32 30.45	13.11
	Weisse 792	6	. .	. .	. .	. .	. .	. .	27.7	30.0	31.2	32.5	33.9	34 31.06	— 33.85	52.01	18 33 5.20	13.27
	Weisse 874	7	40.9	43.0	44.1	54.1	55.2	56.3	57.6	58.6	8.2	9.5	11.5	36 56.27	+ 0.02	52.01	18 36 4.28	13.12
	Weisse 993	8	51.2	53.3	54.5	4.4	5.4	6.6	7.9	8.9	18.6	19.9	21.9	41 6.60	+ 0.02	52.01	18 40 14.61	13.20
	Lacaille 7901	9	20.0	22.4	23.9	36.0	37.3	38.7	40.2	41.4	53.2	54.8	57.4	45 38.66	— 0.03	52.01	18 44 46.62	15.89
	ζ Aquilæ	10	51.9	54.0	55.3	5.2	6.3	7.5	8.8	9.8	19.5	20.9	22.9	0 7.55	+ 0.07	52.01	19 59 16.61	+ 10.51
18	Venus II	11	24.1	26.2	27.5	37.8	39.0	40.2	41.4	42.7	53.0	54.1	56.1	59 40.19	+ 0.12	52.10	6 58 48.11	— 0.63
	α Canis Minoris	12	. .	. .	. .	. .	. .	. .	37.6	39.8	41.0	42.1	43.5	33 40.80	— 33.31	52.11		+ 14.34
19	Sun I	13	5.4	7.4	8.7	18.5	19.7	20.8	22.0	23.2	32.9	34.2	36.3	55 20.83	+ 0.07	52.16	9 54 28.74	. .
	Sun II	14	15.8	17.7	19.1	29.1	30.2	31.4	32.7	33.8	43.3	44.7	46.7	57 31.32	+ 0.07	52.16	9 56 39.23	. .
	Polaris, S. P.	15	1.0	42.0	54.0	. .	. .	. .	. .	. .	55.0	5.0	45.0	11 53.67	— 12.51	52.24		. .
	α Virginis	16	43.9	46.2	47.4	57.6	58.2	59.4	0.6	1.6	.	. .	. .	18 54.29	+ 5.01	52.24	13 18 7.06	13.89
	ζ Cygni	17	50.3	52.5	54.0	5.0	6.2	7.5	8.9	10.2	21.0	22.4	24.8	8 7.53	0.03	52.41	21 8 15.15	9.03
	O. Arg. S. 21284	18	31.9	34.2	35.5	46.3	47.6	49.0	50.2	51.4	1.9	3.4	5.5	11 48.81	0.01	52.41	21 10 56.41	13.64
	O. Arg. S. 21355	19	8.8	10.9	12.2	22.9	24.0	25.3	26.5	27.5	38.1	39.5	41.6	17 25.21	0.01	52.41	21 16 32.81	13.36
	ζ Capricorni	20	37.5	39.6	41.0	51.5	52.8	54.0	55.2	56.4	6.4	7.8	10.1	19 53.85	0.01	52.41	21 19 1.45	13.25
	Weisse 543	21	56.2	58.2	59.5	9.3	10.4	11.7	12.9	14.1	23.4	24.8	26.8	25 11.57	0.02	52.42	21 24 19.17	+ 12.27
	β Cephei	22	7.9	13.9	17.9	45.7	48.9	52.2	56.0	58.9	. .	30.3	36.1	27 48.78	3.53	52.42		— 1.56
	Weisse 739	23	33.9	36.0	37.3	47.2	48.2	49.5	50.7	51.8	1.5	2.8	4.8	32 49.43	0.01	52.42	21 31 57.02	+ 12.60
	B. A. C. 7550	24	20.5	22.7	23.9	34.2	35.4	36.7	37.9	39.1	49.1	50.5	52.5	36 36.59	0.01	52.42	21 35 44.18	12.94
μ	Capricorni	25	36.8	38.9	40.1	50.1	51.1	52.3	53.5	54.6	4.3	5.7	7.7	46 52.28	0.01	52.43	21 45 59.86	12.58
	Weisse 1106	26	26.6	28.8	29.9	39.8	40.8	41.9	43.2	44.1	54.0	55.2	57.3	48 41.96	0.02	52.43	21 47 49.55	12.40
	O. Arg. S. 21772	27	51.4	52.9	54.4	55.7	58.5	. .	4.3	6.8	8.1	9.6	11.1	52 31.48	0.26	52.43	21 51 39.31	13.09
	O. Arg. S. 21774	28	20.5	22.7	24.0	34.7	35.9	37.2	38.4	39.6	49.9	51.4	53.5	52 37.07	0.01	52.43	21 51 44.65	13.08
	O. Arg. S. 21903	29	51.4	53.7	55.0	5.6	6.7	8.0	9.3	10.4	21.0	22.6	24.5	1 8.02	+ 0.01	52.43	22 0 15.60	13.06
	O. Arg. N. 23438	30	. .	. .	. .	6.1	8.0	11.4	36.0	39.6	41.5	43.7	45.7	3 29.00	— 42.15	52.43	22 1 54.42	6.58
	O. Arg. N. 23452	31	. .	. .	. .	. .	. .	. .	12.1	15.7	17.7	19.7	21.9	4 17.42	— 54.66	52.43	22 2 30.33	6.56
η	Aquarii	32	6.4	8.4	9.5	19.0	20.2	21.3	22.5	23.6	32.9	34.2	36.2	29 21.29	+ 0.02	52.44	22 28 28.87	11.71
	Weisse 602	33	. .	. .	. .	39.4	40.8	42.7	57.9	0.2	1.4	2.7	4.2	30 53.66	— 26.16	52.44	22 29 35.06	12.16
	Weisse 619	34	. .	. .	. .	15.1	16.4	18.3	33.5	35.7	37.2	38.4	39.7	31 29.29	— 26.16	52.44	22 30 10.69	12.16
	* + 53° 39′	35	30.5	34.1	36.0	52.3	54.2	. .	58.1	59.7	15.8	17.8	20.9	35 55.94	+ 0.07	52.44	22 35 3.57	7.38
	O. Arg. N. 24533	36	37.2	40.4	42.7	58.7	0.5	2.7	5.0	6.4	22.5	24.6	27.9	37 2.60	+ 0.06	52.44	22 36 10.22	7.42
	O. Arg. N. 24553	37	. .	. .	. .	47.3	49.0	51.2	53.2	54.8	10.8	12.8	16.2	37 59.41	— 8.34	52.44	22 36 58.63	7.45
λ	Aquarii	38	15.1	16.3	18.5	28.1	29.3	30.5	31.7	32.7	42.2	43.4	45.4	46 30.29	+ 0.02	52.45	22 45 37.86	11.99
γ	Piscium	39	51.2	53.2	54.4	3.8	5.0	6.2	7.4	8.5	17.9	19.2	21.1	11 6.17	0.02	52.46	23 10 13.73	11.87
	Juno	40	36.1	37.3	38.7	40.1	42.4	. .	42.3	44.7	45.9	47.1	48.5	21 12.31	0.25	52.46	23 20 20.10	. .
	* — 0° 1′	41	11.0	13.1	14.2	23.8	25.0	26.2	27.4	28.3	37.7	39.0	41.1	21 26.07	0.02	52.46	23 20 33.63	11.76
	* + 3° 20′	42	32.5	34.7	35.8	45.5	46.5	47.6	48.8	49.9	59.3	0.6	2.6	49 47.62	0.02	52.47	23 48 55.17	11.78
ω	Piscium	43	3.7	5.7	7.0	16.6	17.7	18.8	20.0	21.1	30.6	31.8	33.9	53 18.81	0.02	52.47	23 52 26.36	11.84
	* — 1° 34′	44	54.6	55.9	57.1	58.4	0.8	. .	28.7	29.8	31.0	32.2	33.1	58 14.16	16.83	52.47	23 57 38.52	11.84
	Weisse 1186	45	55.8	57.8	59.0	8.6	9.8	10.9	12.1	13.1	22.5	23.9	25.8	59 10.85	0.02	52.47	23 58 18.40	11.84
	Santini I	46	7.6	9.6	10.8	20.5	21.6	22.7	24.0	25.0	34.5	35.7	37.8	2 22.71	0.02	52.47	0 1 30.26	11.85
	Lalande 130	47	25.3	27.3	28.5	38.2	39.2	. .	41.7	42.7	52.2	53.5	55.5	7 46.41	0.03	52.48	0 6 47.96	11.85
	* + 2° 28′	48	39.5	41.5	42.7	52.3	53.3	54.5	55.8	56.8	6.1	7.4	9.3	38 54.47	0.02	52.49	0 38 2.00	+ 12.02
	Neptune	49	40.5	42.6	43.7	53.4	54.5	55.7	57.0	58.0	7.3	8.6	10.6	40 55.63	+ 0.02	—52.49	0 40 3.16	. .

August 18–19, 6h. to 14h. n. = + 0.25.
19, 21h. to 0h. + 0.02.
0h. to 2h. — 0.04.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Aug. 19, 21.1	— 52.41	— 0.022	+ 0.02	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction to 1870.0
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 19 Tr.	* + 3° 0′	1	10.4	12.5	13.8	23.5	24.6	25.7	26.8	27.9	37.3	38.6	40.6	43 25.61	+ 0.02	—52.49	0 42 33.14	+ 12.05
	Rumker 354	2	46.0	48.1	49.3	59.2	0.2	1.4	2.5	3.6	13.3	14.5	16.5	46 1.33	0.01	52.49	0 45 8.85	12.12
	Weisse 807	3	28.6	30.7	31.9	41.8	42.8	43.9	45.2	46.4	55.9	57.2	59.2	47 43.96	+ 0.01	52.49	0 46 51.48	12.13
	ε Piscium	4	37.0	38.9	40.3	. .	51.0	52.1	53.4	54.5	4.0	5.2	7.3	56 52.37	— 0.21	52.49	0 55 59.67	12.15
	Weisse 42	5	10.0	12.0	. .	23.0	24.2	25.4	26.6	27.6	. .	38.5	40.5	5 25.31	0.00	52.50	1 4 32.81	12.31
	Weisse 55	6	54.4	56.4	57.6	7.5	8.6	9.8	11.1	12.1	21.7	22.9	24.8	6 9.72	+ 0.01	52.50	1 5 17.23	12.32
	Polaris	7	. .	. .	. .	10.0	56.0	40.0	29.0	14.0	. .	. .	. .	11 41.80	— 2.68	52.50		29.79
	Lalande 2410	8	10.3	12.3	13.5	23.6	24.6	25.8	27.1	28.2	37.7	39.1	41.1	14 25.75	+ 0.01	52.50	1 13 33.24	12.42
	θ Ceti	9	56.8	59.1	0.1	9.9	11.0	. .	13.3	14.4	23.9	25.3	27.2	18 12.10	0.04	52.50	1 17 19.64	11.92
	Weisse 328	10	58.9	0.9	2.0	11.6	12.7	14.0	15.2	16.1	25.6	26.9	29.0	21 13.90	0.02	52.50	1 20 21.42	12.33
	Weisse 389	11	16.0	18.1	19.2	28.8	29.8	31.1	32.3	33.3	42.7	44.0	46.0	24 31.03	0.02	52.50	1 23 38.55	12.22
	Weisse 468	12	29.9	32.1	33.3	43.2	44.3	45.6	46.8	47.7	57.5	58.9	1.0	28 45.48	0.01	52.51	1 27 52.98	12.61
	Weisse 557	13	. .	. .	. .	33.1	34.3	35.6	. .	37.7	. .	. .	. .	33 35.18	+ 0.28	52.51	1 32 42.95	12.66
	Weisse 558	14	. .	. .	. .	48.4	49.7	51.7	7.3	9.5	10.8	12.0	13.4	34 2.85	— 26.54	52.51	1 32 43.80	12.66
	o Piscium	15	56.7	58.7	59.8	9.6	10.6	11.8	13.0	14.1	23.7	24.9	26.9	39 11.80	+ 0.01	52.51	1 38 19.30	+ 11.55
E. 20	Venus II	†16	. .	. .	. .	24.7	26.1	28.1	44.8	46.6	48.0	49.4	50.8	9 39.74	— 27.50	52.50	7 8 19.74	— 0.62
	α Canis Minoris	17	52.9	54.8	56.1	5.8	. .	8.0	9.2	10.2	19.7	21.0	23.0	33 8.07	— 0.09	52.49	7 32 15.49	+ 14.30
	β Geminorum	18	40.1	42.3	43.7	54.7	56.0	57.3	58.7	59.8	10.4	11.9	14.1	37 57.18	+ 0.08	52.49	7 36 4.77	16.82
21	Sun I	19	30.7	33.1	34.2	44.0	45.1	46.2	47.4	48.4	58.1	59.5	1.5	2 46.20	0.05	52.58	10 1 53.67	. .
	Sun II	20	40.7	42.8	43.9	53.9	54.9	56.0	57.3	58.5	8.1	9.4	11.5	4 56.09	0.05	52.58	10 4 3.56	. .
	Polaris, S. P.	21	0.0	37.0	. .	21.0	38.0	51.0	58.0	18.0	53.0	2.0	45.0	11 2.30	+ 37.90	52.66		28.94
	α Virginis	22	44.3	46.4	47.6	57.4	58.4	59.5	0.9	1.9	11.5	12.8	14.8	18 59.59	— 0.05	52.66	13 18 6.88	13.91
	α Bootis	23	8.3	10.5	11.8	22.1	23.1	24.4	25.7	26.7	36.9	38.1	40.4	10 24.36	+ 0.09	52.68	14 9 31.77	12.18
	ρ Capricorni	24	50.4	52.5	53.7	4.0	5.0	6.2	7.5	8.6	18.5	19.8	22.0	22 6.20	— 0.08	52.84		13.24
	B. A. C. 7197	†25	9.4	11.5	12.6	23.4	24.4	25.6	26.9	27.9	38.3	39.5	41.8	41 25.57	— 0.11	52.84	20 40 32.62	13.57
Tr. 22	α Geminorum	26	35.7	38.2	39.6	51.0	52.3	53.6	55.1	56.3	7.3	8.9	11.1	26 53.55	+ 0.06	52.97	7 26 0.64	17.46
	α Canis Minoris	27	53.4	55.5	56.7	6.3	7.4	8.5	9.8	10.8	20.4	21.6	23.6	33 8.55	0.01	52.97	7 32 15.59	14.26
	β Geminorum	28	40.4	42.7	44.3	55.3	56.4	57.7	59.2	0.3	10.9	12.5	14.6	37 57.66	+ 0.05	52.97	7 37 4.74	16.78
23	β Leonis	29	. .	. .	. .	16.6	18.0	19.9	35.5	37.8	39.0	40.3	41.8	43 31.11	— 26.63	53.09	11 42 11.39	14.18
	* + 44° 48′	30	. .	. .	. .	57.5	58.9	0.2	2.1	3.6	16.9	18.9	21.4	36 7.44	— 6.93	53.34	20 35 7.17	6.52
	α Cygni	31	25.5	28.4	30.0	43.7	45.3	46.8	48.7	50.2	3.3	5.1	7.8	37 46.80	+ 0.09	53.34	20 36 53.55	6.53
	* — 23° 15′	32	4.7	6.9	8.2	. .	. .	. .	. .	. .	34.0	35.3	37.4	41 21.08	0.00	53.34	20 40 27.74	13.58
	B. A. C. 7197	33	. .	. .	. .	23.7	24.8	26.1	27.5	28.8	. .	. .	. .	41 26.18	— 0.09	53.34	20 40 32.75	13.57
	μ Aquarii	34	4.1	6.1	7.4	17.1	18.2	19.4	20.7	21.7	31.2	32.6	34.5	46 19.36	— 0.02	53.34	20 45 26.00	12.43
	32 Vulpeculæ	35	28.3	30.7	32.1	42.8	44.0	45.2	46.6	47.7	58.4	59.9	2.1	49 45.25	+ 0.05	53.34	20 48 51.96	9.15
	β Aquarii	36	9.1	11.0	12.2	21.9	22.9	24.1	25.5	26.5	35.9	37.3	39.2	25 24.15	— 0.01	53.36	21 24 30.78	+ 12.05
	β Cephei	37	46.2	49.6	53.1	56.9	59.9	. .	20.3	26.8	30.5	34.3	38.1	28 41.57	48.27	53.36	21 26 59.94	— 1.52
	Weisse 739	38	34.6	36.8	38.1	48.0	49.2	50.4	51.7	52.7	2.4	3.7	5.6	32 50.47	0.02	53.36	21 31 57.09	+ 12.58
	Weisse 1085	39	32.7	34.7	35.9	45.9	46.8	47.9	49.1	50.2	59.6	0.9	2.9	47 47.87	— 0.01	53.37	21 46 54.49	12.05
	O. Arg. N. 23385	40	58.5	0.7	2.7	4.9	9.0	. .	48.7	52.3	54.5	56.5	58.7	1 58.65	+ 0.50	53.38	22 1 5.77	6.48
	O. Arg. N. 23425	41	. .	. .	. .	29.3	31.1	33.2	35.1	36.9	. .	. .	. .	2 35.12	0.04	53.38	22 1 41.78	6.47
	Weisse 113	42	39.1	41.3	42.4	52.0	53.1	54.2	55.4	56.4	5.8	7.2	9.2	7 54.19	0.00	53.38	22 7 0.81	11.57
	Weisse 153	43	24.1	26.1	27.4	36.9	38.0	39.2	40.4	41.4	51.0	52.3	54.3	9 39.19	0.00	53.38	22 8 45.81	11.55
	35 Pegasi	44	43.4	45.5	46.7	56.3	57.4	58.6	59.8	0.8	10.3	11.6	13.5	21 58.54	+ 0.01	53.39	22 21 5.16	11.42
	O. Arg. S. 22237	45	2.7	5.0	6.1	16.6	17.7	18.9	20.3	21.3	31.4	32.7	34.8	28 18.86	— 0.03	53.39	22 27 25.44	12.56
	θ Piscium	46	49.2	51.2	52.4	2.1	3.1	4.3	5.5	6.6	16.1	17.3	19.3	22 4.28	+ 0.01	53.42	23 21 10.87	11.50
	* + 2° 28′	47	40.4	42.4	43.6	53.2	54.4	55.5	56.7	57.7	7.2	8.4	10.3	38 55.44	0.00	53.45	0 38 1.99	11.94
	Neptune	48	24.8	26.9	28.0	37.6	38.6	39.8	41.0	42.2	51.6	52.8	54.8	40 39.83	0.00	53.45	0 39 46.38	. .
	* + 3° 0′	49	11.6	13.6	14.6	24.4	25.4	26.7	27.9	29.0	38.3	39.6	41.6	43 26.61	0.00	—53.45	0 42 33.16	+ 11.96

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 21, 12.6	— 52.64	— 0.025	0.00
23, 17.1	— 53.24	— 0.028	

16. Through clouds.
25. Faint.

s.
August 21, n. = + 0.25.
23, + 0.09.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 23	Weisse 807 . . .	1	29.6	31.6	32.9	42.7	43.8	44.9	46.2	47.2	. .	58.1	0.1	47 43.71	+ 1.21	—53.46	0 46 51.46	+ 12.05
Tr.	Weisse 928 . . .	2	33.7	35.8	37.1	46.7	47.8	49.0	50.1	51.2	0.6	1.8	3.9	54 48.88	0.01	53.46	0 53 55.43	12.04
	ϵ Piscium	3	38.1	40.0	41.2	51.0	52.1	53.3	54.4	55.5	5.0	6.3	8.3	56 53.20	0.01	53.46	0 55 59.75	12.06
	Weisse 13 . . .	4	36.1	38.2	39.4	49.2	50.3	51.5	52.7	53.7	3.5	4.8	6.9	3 51.48	0.02	53.46	1 2 58.04	12.21
	* + 12° 19′ . . .	5	1.6	3.6	4.9	14.7	15.8	17.0	18.2	19.2	29.0	30.3	32.4	6 16.97	0.02	53.46	1 5 23.53	12.24
	Polaris	6	. .	. .	. .	11.0	52.0	42.0	29.0	10.0	. .	. .	. .	11 40.80	1.78	53.47		27.46
	* + 22° 45′ . . .	7	18.5	20.7	21.9	32.4	33.6	34.9	36.2	37.4	47.5	48.8	50.9	14 34.80	+ 0.04	53.47	1 13 41.37	12.52
	θ Ceti	8	58.0	0.0	1.2	11.2	12.0	13.2	14.4	15.4	25.2	26.3	28.3	18 13.20	— 0.01	53.47	1 17 19.72	+ 11.83
Y.	Venus II . . .	9	17.6	19.8	21.2	31.4	32.6	33.9	35.2	36.2	46.3	47.8	49.9	23 33.81	+ 0.05	53.39	7 22 40.47	— 0.61
	α Canis Minoris . .	10	53.7	55.9	57.0	6.7	7.8	9.1	10.3	11.2	20.6	21.9	23.9	33 8.92	0.01	53.39	7 32 15.54	+ 14.24
	β Geminorum . . .	11	40.9	43.2	44.6	55.5	56.8	58.1	59.4	0.6	11.3	12.9	15.0	37 58.03	+ 0.06	53.39	7 37 4.70	16.75
24	Sun I	12	. .	. .	. .	2.7	4.0	6.0	21.3	23.7	24.9	26.2	27.5	14 17.04	— 26.22	53.43	10 12 57.39	. .
	Sun II	13	45.0	46.9	48.2	58.1	59.0	0.2	1.6	2.7	12.3	13.5	15.5	16 0.27	+ 0.02	53.43	10 15 6.86	. .
	Mercury	†14	54.5	56.6	57.9	7.3	8.5	9.7	10.8	11.9	21.4	22.7	24.6	29 9.63	0.00	53.45	11 28 16.18	0.31
	Moon I	†15	33.9	36.1	37.4	47.0	48.1	49.3	50.5	51.5	1.2	2.6	4.7	36 49.30	— 0.01	53.47	12 35 55.82	. .
	Polaris, S. P. . .	†16	. .	. .	. .	19.0	38.0	47.5	0.0	19.0	54.0	2.0	42.0	8 27.69	+ 2 17.67	53.48	1 10 51.88	27.14
	α Virginis	17	45.2	47.3	48.4	58.3	59.3	0.5	1.7	2.8	12.4	13.7	15.8	19 0.49	— 0.02	53.48	13 18 6.99	13.94
	α Bootis	18	9.2	11.4	12.7	22.9	24.0	25.3	26.7	27.8	37.6	38.9	41.1	10 25.24	+ 0.04	53.49	14 9 31.79	+ 12.23
	δ Ursæ Minoris . .	19	. .	. .	. .	. .	. .	. .	9.0	47.0	7.5	28.0	49.0	26 4.10	— 9 19.49	53.56	18 15 51.05	— 94.06
	1 Aquilæ	20	33.5	35.5	36.7	46.4	47.6	48.8	50.0	50.9	0.4	1.8	3.8	28 48.67	0.02	53.56	18 27 55.09	+ 12.91
	Weisse 779 . . .	21	8.6	10.8	11.9	21.8	22.9	24.0	25.2	26.2	36.0	37.2	39.2	33 23.98	— 0.02	53.56	18 32 30.40	+ 13.20
	O. Arg. N. 18534 .	22	47.6	54.2	58.3	29.8	33.5	37.4	41.3	44.8	15.9	19.8	26.6	37 37.20	+ 0.38	53.56	18 36 44.02	— 7.38
	Lalande 35006 . .	23	. .	. .	. .	5.9	9.5	13.4	17.1	20.7	51.5	55.9	2.0	39 29.50	— 15.97	53.56	18 38 19.97	7.37
	Lalande 35041 . .	24	. .	. .	. .	51.7	55.5	2.4	50.5	58.2	2.0	6.0	10.5	41 37.10	1 23.45	53.57	18 39 20.08	— 7.25
	51 Cephei, S. P. . .	25	. .	53.5	28.0	39.5	. .	. .	. .	. .	. .	. .	. .	48 20.33	11 11.04	53.57	6 36 15.72	+ 146.06
	Weisse 1333 . .	26	. .	.	. .	20.9	22.2	24.2	39.3	41.5	42.7	44.0	45.3	54 35.01	25.94	53.57	18 53 15.50	12.74
	* — 7° 36′ . . .	27	. .	. .	. .	18.5	19.6	20.8	21.9	23.0	. .	. .	. .	56 20.76	0.07	53.57	18 55 27.12	12.76
	Weisse 1398 . .	28	. .	. .	. .	54.5	55.8	57.8	12.9	15.2	16.5	17.7	18.9	57 8.66	25.94	53.57	18 55 49.15	12.73
	Weisse 1412 . .	29	. .	. .	. .	. .	. .	. .	38.9	41.3	42.5	43.6	44.9	57 42.24	33.49	53.57	18 56 15.18	12.73
	O. Arg. S. 19256 .	30	13.2	15.4	16.7	27.1	28.2	29.5	30.8	31.9	42.2	43.5	45.8	6 29.48	0.05	53.57	19 5 35.86	14.21
	d Sagittarii . . .	31	25.5	27.7	28.9	39.3	40.1	41.5	42.7	43.8	53.9	55.2	57.4	10 41.45	0.04	53.57	19 9 47.84	13.79
	O. Arg. S. 19418 .	32	5.9	8.3	9.5	20.4	21.6	22.9	24.3	25.5	35.9	37.2	39.5	14 22.82	0.06	53.57	19 13 29.19	14.56
	O. Arg. S. 19423 .	33	. .	. .	. .	45.8	47.5	49.7	6.1	8.8	10.3	11.6	13.0	15 1.60	28.76	53.57	19 13 39.27	14.55
	O. Arg. S. 19575 .	34	37.7	39.8	41.2	51.7	. .	54.0	55.3	56.5	6.7	8.1	10.4	20 54.14	— 0.17	53.58	19 20 0.39	14.16
	* — 28° 59′ . .	35	44.2	45.8	47.3	48.7	51.4	. .	0.0	2.8	4.1	5.4	7.0	28 25.67	+ 0.19	53.58	19 27 32.28	14.74
	O. Arg. S. 19737 .	36	17.1	19.5	20.9	32.0	33.1	34.5	35.8	37.0	47.8	49.1	51.5	28 34.39	— 0.07	53.58	19 27 40.74	14.74
	O. Arg. S. 19746 .	37	. .	. .	. .	. .	. .	. .	31.1	33.9	35.2	36.6	38.2	29 35.00	38.00	53.58	19 28 3.42	14.73
	* — 24° 43′ . .	38	. .	. .	. .	25.0	26.2	27.5	28.8	30.0	40.3	41.5	43.8	33 32.89	5.52	53.58	19 32 33.79	14.24
	O. Arg. S. 19879 .	39	8.3	10.6	11.8	22.5	23.7	25.0	26.3	27.4	37.8	39.3	41.4	35 24.92	0.06	53.58	19 34 31.28	14.22
	Dorpat 2566 . .	40	. .	. .	. .	43.6	44.9	47.1	1.9	4.2	5.4	6.7	8.1	37 57.74	25.82	53.58	19 36 38.34	11.30
	O. Arg. S. 19987 .	41	30.7	33.2	34.4	44.8	46.0	47.4	48.6	49.8	0.0	1.5	3.6	42 47.27	0.05	53.58	19 41 53.64	14.10
	Weisse 1160 . .	42	8.8	11.0	12.3	22.3	23.3	24.5	25.7	26.7	36.7	38.0	40.0	47 24.48	0.03	53.58	19 46 30.87	13.12
	Weisse 1187 . .	43	12.4	14.5	15.7	26.0	27.0	28.2	29.4	30.4	40.2	41.4	43.5	48 28.06	— 0.03	53.58	19 47 34.45	13.11
	Dorpat 2601 . .	44	42.4	44.5	45.7	55.4	56.4	57.7	58.9	59.8	. .	. .	. .	50 52.60	+ 4.96	53.58	19 50 3.98	11.67
	Dorpat 2613, (1st *)	45	20.3	21.6	22.9	24.2	26.6	. .	27.6	30.0	31.2	32.5	33.7	55 57.06	0.25	53.59	19 55 3.72	10.84
	Dorpat 2613, (2d *)	46	42.0	44.1	45.4	55.2	56.3	57.5	58.7	59.7	9.2	10.6	12.5	55 57.38	+ 0.02	53.59	19 55 3.81	10.84
	Weisse 1394 . .	47	. .	. .	. .	53.5	54.9	56.8	12.0	14.3	15.6	16.7	18.1	57 7.74	— 26.10	53.59	19 55 48.05	+ 10.84
	λ Ursæ Minoris . .	48	. .	. .	. .	. .	25.0	30.0	31.0	21.0	. .	. .	. .	0 56.75	25.36	53.59	19 59 37.80	— 317.20
	O. Arg. S. 20320 .	49	15.2	17.3	18.4	28.6	29.7	30.9	32.2	33.3	43.0	44.3	46.6	6 30.86	0.04	53.59	20 5 37.23	+ 13.29
	a^2 Capricorni . . .	50	15.9	17.7	18.9	29.0	30.0	31.2	32.4	33.4	43.1	44.4	46.4	11 31.13	— 0.03	—53.59	20 10 37.51	+ 12.87

14. Faint.
15. Faint.
16. Unsteady.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Aug. 24, 17.7	— 53.55	— 0.016	0.00

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduced 1870.0
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 19 Tr.	* + 3° 0′	1	10.4	12.5	13.8	23.5	24.6	25.7	26.8	27.9	37.3	38.6	40.6	43 25.61	+ 0.02	−52.49	0 42 33.14	+ 12.65
	Rumker 354	2	46.0	48.1	49.3	59.2	0.2	1.4	2.5	3.6	13.3	14.5	16.5	46 1.33	0.01	52.49	0 45 8.85	12.12
	Weisse 807	3	28.6	30.7	31.9	41.8	42.8	43.9	45.2	46.4	55.9	57.2	59.2	47 43.96	+ 0.01	52.49	0 46 51.48	12.13
	ε Piscium	4	37.0	38.9	40.3	. .	51.0	52.1	53.4	54.5	4.0	5.2	7.3	56 52.37	— 0.21	52.49	0 55 59.67	12.15
	Weisse 42	5	10.0	12.0	. .	23.0	24.2	25.4	26.6	27.6	. .	38.5	40.5	5 25.31	0.00	52.50	1 4 32.81	12.31
	Weisse 55	6	54.4	56.4	57.6	7.5	8.6	9.8	11.1	12.1	21.7	22.9	24.8	6 9.72	+ 0.01	52.50	1 5 17.23	12.32
	Polaris	7	. .	. .	. .	10.0	56.0	40.0	29.0	14.0	. .	. .	. .	11 41.80	— 2.68	52.50		29.79
	Lalande 2410	8	10.3	12.3	13.5	23.6	24.6	25.8	27.1	28.2	37.7	39.1	41.1	14 25.75	+ 0.01	52.50	1 13 33.24	12.42
	θ Ceti	9	56.8	59.1	0.1	9.9	11.0	. .	13.3	14.4	23.9	25.3	27.2	18 12.10	0.04	52.50	1 17 19.64	11.92
	Weisse 328	10	58.9	0.9	2.0	11.6	12.7	14.0	15.2	16.1	25.6	26.9	29.0	21 13.90	0.02	52.50	1 20 21.42	12.33
	Weisse 389	11	16.0	18.1	19.2	28.8	29.8	31.1	32.3	33.3	42.7	44.0	46.0	24 31.03	0.02	52.50	1 23 38.55	12.32
	Weisse 468	12	29.9	32.1	33.3	43.2	44.3	45.6	46.8	47.7	57.5	58.9	1.0	28 45.48	0.01	52.51	1 27 52.98	12.61
	Weisse 557	13	. .	. .	. .	33.1	34.3	35.6	. .	37.7	. .	. .	. .	33 35.18	+ 0.28	52.51	1 32 42.95	12.66
	Weisse 558	14	. .	. .	. .	48.4	49.7	51.7	7.3	9.5	10.8	12.0	13.4	34 2.85	— 26.54	52.51	1 32 43.80	12.66
	ο Piscium	15	56.7	58.7	59.8	9.6	10.6	11.8	13.0	14.1	23.7	24.9	26.9	39 11.80	+ 0.01	52.51	1 38 19.30	+ 11.55
E. 20	Venus II	†16	. .	. .	. .	24.7	26.1	28.1	44.8	46.6	48.0	49.4	50.8	9 39.74	— 27.50	52.50	7 8 19.74	— 0.62
	α Canis Minoris	17	52.9	54.8	56.1	5.8	. .	8.0	9.2	10.2	19.7	21.0	23.0	33 8.07	— 0.09	52.49	7 32 15.49	+ 14.30
	β Geminorum	18	40.1	42.3	43.7	54.7	56.0	57.3	58.7	59.8	10.4	11.9	14.1	37 57.18	+ 0.08	52.49	7 36 4.77	16.62
21	Sun I	19	30.7	33.1	34.2	44.0	45.1	46.2	47.4	48.4	58.1	59.5	1.5	2 46.20	0.05	52.58	10 1 53.67	. .
	Sun II	20	40.7	42.8	43.9	53.9	54.9	56.0	57.3	58.5	8.1	9.4	11.5	4 56.09	0.05	52.58	10 4 3.56	. .
	Polaris, S. P.	21	0.0	37.0	. .	21.0	38.0	51.0	58.0	18.0	53.0	2.0	45.0	11 2.30	+ 37.90	52.66		28.94
	α Virginis	22	44.3	46.4	47.6	57.4	58.4	59.5	0.9	1.9	11.5	12.8	14.8	18 59.59	— 0.05	52.66	13 18 6.88	13.91
	α Bootis	23	8.3	10.5	11.8	22.1	23.1	24.4	25.7	26.7	36.9	38.1	40.4	10 24.36	+ 0.09	52.68	14 9 31.77	12.15
	ρ Capricorni	24	50.4	52.5	53.7	4.0	5.0	6.2	7.5	8.6	18.5	19.8	22.0	22 6.20	— 0.08	52.84		13.24
	B. A. C. 7197	†25	9.4	11.5	12.6	23.4	24.4	25.6	26.9	27.9	38.3	39.5	41.8	41 25.57	— 0.11	52.84	20 40 32.62	13.37
Tr. 22	α Geminorum	26	35.7	38.2	39.6	51.0	52.3	53.6	55.1	56.3	7.3	8.9	11.1	26 53.55	+ 0.06	52.97	7 26 0.64	17.46
	α Canis Minoris	27	53.4	55.5	56.7	6.3	7.4	8.5	9.8	10.8	20.4	21.6	23.6	33 8.55	0.01	52.97	7 32 15.59	14.26
	β Geminorum	28	40.4	42.7	44.3	55.3	56.4	57.7	59.2	0.3	10.9	12.5	14.6	37 57.66	+ 0.05	52.97	7 37 4.74	16.72
23	β Leonis	29	. .	. .	. .	16.6	18.0	19.9	35.5	37.8	39.0	40.3	41.8	43 31.11	— 26.63	53.09	11 42 11.39	14.18
	* + 44° 48′	30	. .	. .	. .	57.5	58.9	0.2	2.1	3.6	16.9	18.9	21.4	36 7.44	— 6.93	53.34	20 35 7.17	6.52
	α Cygni	31	25.5	28.4	30.0	43.7	45.3	46.8	48.7	50.2	3.3	5.1	7.8	37 46.80	+ 0.09	53.34	20 36 53.55	6.53
	* — 23° 15′	32	4.7	6.9	8.2	. .	. .	. .	. .	. .	34.0	35.3	37.4	41 21.08	0.00	53.34	20 40 27.74	13.56
	B. A. C. 7197	33	. .	. .	. .	23.7	24.8	26.1	27.5	28.8	. .	. .	. .	41 26.18	— 0.09	53.34	20 40 32.75	13.37
	μ Aquarii	34	4.1	6.1	7.4	17.1	18.2	19.4	20.7	21.7	31.2	32.6	34.5	46 19.36	— 0.02	53.34	20 45 26.00	12.43
	32 Vulpeculæ	35	28.3	30.7	32.1	42.8	44.0	45.2	46.6	47.7	58.4	59.9	2.1	49 45.25	+ 0.05	53.34	20 48 51.96	9.15
	β Aquarii	36	9.1	11.0	12.2	21.9	22.9	24.1	25.5	26.5	35.9	37.3	39.2	25 24.15	— 0.01	53.36	21 24 30.78	+ 12.05
	β Cephei	37	46.2	49.6	53.1	56.9	59.9	. .	20.3	26.8	30.5	34.3	38.1	28 41.57	48.27	53.36	21 26 59.94	— 1.52
	Weisse 739	38	34.6	36.8	38.1	48.0	49.2	50.4	51.7	52.7	2.4	3.7	5.6	32 50.47	0.02	53.36	21 31 57.09	+ 12.58
	Weisse 1085	39	32.7	34.7	35.9	45.9	46.8	47.9	49.1	50.2	59.6	0.9	2.9	47 47.87	— 0.01	53.37	21 46 54.49	12.05
	O. Arg. N. 23385	40	58.5	0.7	2.7	4.9	9.0	. .	48.7	52.3	54.5	56.5	58.7	1 58.65	+ 0.50	53.38	22 1 5.77	6.45
	O. Arg. N. 23425	41	. .	. .	. .	29.3	31.1	33.2	35.1	36.9	. .	. .	. .	2 35.12	0.04	53.38	22 1 41.78	6.47
	Weisse 113	42	39.1	41.3	42.4	52.0	53.1	54.2	55.4	56.4	5.8	7.2	9.2	7 54.19	0.00	53.38	22 7 0.81	11.57
	Weisse 153	43	24.1	26.1	27.4	36.9	38.0	39.2	40.4	41.4	51.0	52.3	54.3	9 39.19	0.00	53.38	22 8 45.81	11.55
	35 Pegasi	44	43.4	45.5	46.7	56.3	57.4	58.6	59.8	0.8	10.3	11.6	13.5	21 58.54	+ 0.01	53.39	22 21 5.16	11.42
	O. Arg. 8. 22237	45	2.7	5.0	6.1	16.6	17.7	18.9	20.3	21.3	31.4	32.7	34.8	28 18.86	— 0.03	53.39	22 27 25.44	12.56
	θ Piscium	46	49.2	51.2	52.4	2.1	3.1	4.3	5.5	6.6	16.1	17.3	19.3	22 4.28	+ 0.01	53.42	23 21 10.87	11.50
	* + 2° 28′	47	40.4	42.4	43.6	53.2	54.4	55.5	56.7	57.7	7.2	8.4	10.3	38 55.44	0.00	53.45	0 38 1.99	11.94
	Neptune	48	24.8	26.9	28.0	37.6	38.6	39.8	41.0	42.2	51.6	52.8	54.8	40 39.83	0.00	53.45	0 39 46.38	. .
	* + 3° 0′	49	11.6	13.6	14.6	24.4	25.4	26.7	27.9	29.0	38.3	39.6	41.6	43 26.61	0.00	−53.45	0 42 33.16	+ 11.96

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 21, 12.6	— 52.64	— 0.025	0.00
23, 17.1	— 53.24	— 0.028	

16. Through clouds.
25. Faint.

s.
August 21, n. = + 0.25.
23, + 0.09.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 25 E.	B. A. C. 6376	1	44.7	46.8	48.1	58.3	59.4	0.7	1.9	3.0	. .	14.5	16.5	38 59.39	+ 1.22	—53.99	18 38 6.62	+ 13.85
	Weisse 993	2	53.3	55.4	56.6	6.5	7.6	8.8	10.0	10.9	20.7	22.0	24.0	41 8.71	— 0.01	53.99	18 40 14.71	13.12
	Dorpat 2417, (1st *)	3	51.2	52.5	53.8	55.1	57.5	. .	57.8	59.9	1.3	2.5	3.9	50 27.55	+ 0.23	53.99	18 49 33.79	11.54
	Dorpat 2417, (2d *)	4	14.3	16.2	17.5	27.1	28.3	29.3	30.5	31.5	41.0	42.2	44.3	50 29.29	0.00	53.99	18 49 35.30	11.54
	Weisse 1398	5	28.0	30.1	31.2	41.0	42.1	43.3	44.5	45.5	55.0	56.2	58.2	56 43.19	— 0.01	54.00	18 55 49.18	12.74
	Weisse 1412	6	. .	. .	. .	7.1	8.2	9.3	10.4	11.5	21.0	22.4	24.4	57 14.29	5.04	54.00	18 56 15.25	12.74
	Dorpat 2447, (1st *)	7	58.4	0.4	1.4	11.3	12.4	13.5	14.6	15.6	25.2	26.3	28.3	0 13.42	0.00	54.00	18 59 19.42	12.10
	Dorpat 2447, (2d *)	8	10.2	12.3	13.4	23.2	24.2	25.3	26.5	27.6	37.0	38.3	40.2	1 25.29	0.00	54.00	19 0 31.29	12.10
	* — 8° 10′	9	29.5	31.6	32.7	42.5	43.5	44.8	46.0	47.0	56.6	58.0	59.6	5 44.71	0.01	54.00	19 4 50.70	12.76
20	Aquilæ	10	3.8	5.7	7.0	16.8	17.8	18.9	20.1	21.2	30.6	32.0	33.9	6 18.89	0.01	54.00	19 5 24.88	12.76
d	Sagittarii	11	26.0	28.1	29.4	39.6	40.7	42.0	43.3	44.3	54.4	55.5	57.8	10 41.92	— 0.02	54.00	19 9 47.90	13.81
	Dorpat 2497, (S. *)	12	43.2	44.6	45.9	47.0	49.5	. .	50.0	52.0	53.5	54.6	56.1	14 19.64	+ 0.24	54.00	19 13 25.88	11.43
	Dorpat 2497, (N. *)	13	4.7	6.7	7.9	17.4	18.7	20.0	21.1	22.2	31.5	32.8	34.8	14 19.80	+ 0.01	54.00	19 13 25.81	11.43
	O. Arg. S. 19683	14	17.5	19.7	21.0	31.8	33.0	34.3	35.6	36.7	47.4	48.8	50.9	25 34.25	— 0.03	54.01	19 24 40.21	14.48
	* — 29° 0′	15	9.3	11.6	12.9	24.0	25.2	26.5	27.8	29.0	. .	. .	. .	26 20.79	+ 5.63	54.01	19 27 32.41	14.75
	O. Arg. S. 19737	16	17.6	19.9	21.4	32.5	33.5	34.8	36.1	37.3	48.1	49.4	51.8	28 34.76	— 0.04	54.01	19 27 40.71	14.75
	O. Arg. S. 19746	17	. .	. .	. .	55.0	56.0	57.4	58.9	0.1	. .	. .	. .	28 57.48	0.09	54.01	19 28 3.38	14.75
	* — 23° 59′	18	39.0	41.1	42.4	53.1	54.2	55.5	56.8	57.9	8.1	9.6	11.8	33 55.41	0.03	54.02	19 33 1.36	14.17
	* — 23° 58′	19	15.9	18.2	19.4	29.9	31.0	32.4	33.7	34.8	45.1	46.5	48.5	34 32.31	0.03	54.02	19 33 38.26	14.16
	* — 23° 59′	20	59.7	0.9	2.1	3.5	4.7	. .	34.8	37.2	38.6	40.0	41.4	35 20.29	— 18.22	54.02	19 34 8.05	14.16
χ	Aquilæ	21	32.5	34.7	36.0	45.7	46.7	47.9	49.1	50.2	59.8	1.1	3.0	40 47.88	+ 0.01	54.02	19 39 53.87	+ 10.86
λ	Ursæ Minoris	22	. .	. .	. .	29.0	27.0	28.5	30.0	22.0	. .	. .	. .	0 27.30	+ 1.26	54.02	19 59 34.54	— 316.50
	Weisse 81	23	56.9	58.9	0.1	10.1	11.1	12.4	13.6	14.7	24.4	25.8	27.6	6 12.33	— 0.02	54.02	20 5 18.29	+ 13.03
	Weisse 122	24	18.8	21.0	22.3	32.1	33.4	34.6	35.9	36.8	46.5	47.9	49.9	7 34.47	0.02	54.03	20 6 40.42	13.03
	* — 24° 15′	25	. .	. .	. .	19.8	21.2	23.3	39.6	42.1	43.4	44.9	46.2	9 35.06	28.22	54.03	20 8 12.81	13.93
	O. Arg. S. 20482	26	18.0	20.2	. .	31.5	32.5	33.7	35.0	36.1	. .	47.2	49.2	15 33.71	0.03	54.03	20 14 39.65	13.15
	* — 16° 2′	27	43.0	45.0	46.3	56.3	57.3	58.7	0.0	1.0	10.8	12.0	14.0	15 58.58	0.02	54.03	20 15 4.53	13.15
π	Capricorni	28	17.6	19.8	21.1	31.1	32.3	33.4	34.7	35.8	45.5	47.1	49.2	20 33.42	0.02	54.03	20 19 39.37	13.31
	B. A. C. 7063	29	12.7	14.9	16.0	25.9	27.0	28.2	29.5	30.6	40.4	41.7	43.7	24 28.24	0.02	54.03	20 23 34.19	13.04
	O. Arg. S. 20660	30	31.4	33.5	34.8	45.5	46.5	47.7	49.2	50.2	0.5	1.8	4.1	30 47.75	— 0.03	54.03	20 29 53.69	13.64
	* — 23° 15′	31	42.2	43.7	45.1	46.4	49.1	. .	54.5	56.8	58.3	59.5	1.0	41 21.66	+ 0.22	54.04	20 40 27.84	13.58
	B. A. C. 7197	32	10.5	12.6	14.1	24.8	25.9	27.0	28.3	29.3	39.5	40.8	43.1	41 26.90	— 0.03	54.04	20 40 32.83	13.57
	* — 19° 38′	33	. .	. .	. .	57.3	58.4	59.6	0.8	1.9	. .	. .	. .	51 59.60	— 0.07	54.04	20 51 5.49	13.20
	* — 19° 39′	†34	37.1	38.4	40.0	41.3	43.5	. .	47.6	50.5	51.6	53.0	54.4	52 15.74	+ 0.22	54.04	20 51 21.92	13.20
	* — 23° 26′	35	. .	. .	. .	. .	. .	. .	43.8	46.2	47.6	48.9	50.0	0 47.30	— 36.20	54.05	20 59 17.05	13.44
	O. Arg. S. 21162	36	53.9	56.1	57.4	8.0	9.1	10.3	11.7	12.8	23.0	24.3	26.4	3 10.27	— 0.03	54.05	21 2 16.19	13.38
	O Arg.S 21489, (1st*)	37	27.4	29.5	30.8	. .	. .	. .	. .	. .	55.6	57.9	0.1	4 43.55	+ 0.01	54.05	21 3 49.51	13.41
	O.Arg.S.21489, (2d*)	38	. .	. .	. .	41.7	42.9	44.2	45.6	46.7	. .	. .	. .	4 44.22	— 0.08	54.05	21 3 50.09	13.41
	O. Arg. S. 21219	39	20.1	22.3	23.6	34.1	35.1	36.4	37.9	39.0	49.1	50.6	52.6	6 36.44	— 0.03	54.05	21 5 42.36	13.38
1	Pegasi	40	32.4	34.5	35.7	45.8	47.0	48.3	49.6	50.7	0.6	2.0	4.2	16 48.25	+ 0.02	54.05	21 15 54.22	10.17
	Juno	41	48.0	50.0	51.4	1.0	2.0	3.1	4.4	5.4	14.8	16.1	18.1	18 3.12	0.00	54.10	23 17 9.02	. .
ι	Piscium	42	43.1	45.2	46.4	56.2	57.2	58.3	59.6	0.6	10.1	11.2	13.2	33 58.28	+ 0.01	54.11	23 33 4.16	11.69
	Weisse 845	43	29.4	31.5	33.1	42.2	43.1	44.2	45.3	46.5	56.1	57.2	59.2	42 44.35	0.00	54.12	23 41 50.23	11.72
21	Piscium	44	15.5	17.5	18.6	28.3	29.4	30.5	31.7	32.8	42.2	43.4	45.4	43 30.48	0.00	54.12	23 42 36.36	11.72
	O. Arg. S. 23120	45	22.4	24.6	25.8	36.4	37.6	38.8	40.2	41.2	51.7	52.9	55.2	48 38.80	— 0.03	54.12	23 47 44.65	12.00
	O. Arg. S. 23126	46	31.7	34.0	35.2	45.3	46.4	47.7	49.2	50.5	0.7	2.1	4.3	49 47.92	0.03	54.12	23 48 53.77	12.00
	Weisse 1099	47	. .	. .	. .	0.6	1.7	2.8	4.1	5.1	14.5	15.4	17.7	55 7.74	5.02	54.12	23 54 8.60	11.82
	Weisse 1183	48	51.2	53.1	54.4	4.0	5.0	6.2	7.4	8.5	18.0	19.0	21.2	59 6.20	0.00	54.12	23 58 12.08	11.78
	Weisse 1209	49	19.6	20.5	21.7	22.9	23.8	. .	51.7	54.0	55.0	56.2	57.6	0 38.30	— 16.63	54.12	23 59 27.55	11.79
	Harvard Zones 97, 22	50	19.5	21.8	22.9	32.5	33.5	34.5	36.0	37.6	46.2	47.4	49.7	7 34.69	0.00	—54.13	0 6 40.56	+ 11.79

34. Several very faint stars in the field.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 25, 17.9	— 53.97	— 0.025	0.00

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 25	* + 0° 6′	1	. .	. .	. .	2.6	3.0	4.2	5.4	6.5	15.8	17.0	19.1	8 9.13	— 4.98	—54.13	0 7 10.02	+ 11.79
E.	Weisse 247	2	45.7	47.8	49.1	58.7	59.7	0.9	2.2	3.2	12.7	13.9	15.9	16 0.89	+ 0.01	54.13	0 15 6.77	11.79
	Weisse 302	3	26.9	29.0	30.0	39.9	41.1	42.2	43.4	44.5	54.0	55.3	57.3	19 42.15	0.01	54.13	0 18 48.03	11.80
	Weisse 375	4	15.7	17.9	19.0	28.8	29.8	31.0	32.0	33.0	42.7	44.1	46.0	24 30.91	0.01	54.13	0 23 36.79	11.83
	Weisse 453	5	3.5	5.6	6.7	16.4	17.5	18.7	19.8	21.0	30.3	31.8	33.6	28 18.63	+ 0.01	54.13	0 27 24.51	11.86
	B. A. C. 167	6	52.6	54.5	55.8	5.3	6.5	7.6	8.7	9.9	19.3	20.7	22.6	33 7.59	0.00	54.13	0 32 13.46	11.87
	β Ceti	7	30.3	32.3	33.5	43.8	45.0	46.2	47.5	48.5	58.6	0.0	1.9	37 46.15	— 0.02	54.14	0 36 51.99	11.75
	Neptune	8	16.7	18.9	20.0	29.7	30.7	32.0	33.1	34.1	43.4	44.6	46.7	40 31.81	0.00	54.14	0 39 37.67	
	Rumker N. F., 329	9	34.4	36.5	37.7	47.3	48.5	49.7	50.9	51.9	1 6	2.9	4.9	43 49.66	+ 0.01	54.14	0 42 55.53	11.94
	ε Piscium	10	38.6	40.9	42.1	51.8	52.9	54.0	55.2	56.3	5.8	7.1	9.1	56 53.98	0.01	54.14	0 55 59.85	12.02
	* + 11° 57′	11	47.4	49.5	50.6	0.6	1.7	2.9	4.3	5.2	14.9	16.1	18.1	3 2.85	0.01	54.15	1 2 8.71	12.16
	Weisse 13	12	36.7	38.9	40.2	50.2	51.2	52.3	53.5	54.7	4.3	5.5	7.5	3 52.27	0.01	54.15	1 2 58.13	12.17
	* + 12° 19′	13	2.4	4.5	5.8	15.7	16.6	17.8	19.1	20.1	30.0	31.2	33.0	6 17.84	0.01	54.15	1 5 23.70	12.29
	Polaris	14	. .	. .	. .	16.0	54.5	55.5	56.0	19.0	. .	. .	. .	11 46.20	0.97	54.15	1 10 53.02	26.14
Tr.	α Geminorum	15	37.2	39.4	40.9	52.2	53.4	54.9	56.4	57.5	8.6	10.3	12.5	26 54.85	+ 0.01	54.06	7 26 0.80	+ 17.35
	Venus II	16	54.3	56.4	57.7	8.2	9.3	10.4	11.8	12.8	23.0	24.3	26.4	33 10.42	0.00	54.06	7 32 16.36	— 0.60
	β Geminorum	17	. .	44.0	45.3	56.3	57.8	59.0	0.2	1.3	12.3	13.7	16.0	37 0.59	— 1.70	54.06	7 37 4.83	+ 16.71
	α Hydræ	18	37.3	39.3	40.6	. .	51.3	52.6	53.8	54.8	4.3	5.5	7.5	21 52.70	0.25	54.07	9 20 58.38	13.56
26	Sun I	19	56.5	58.6	59.7	9.4	10.7	11.7	12.8	14.0	23.5	24.9	27.0	21 11.71	0.01	54.07	10 20 17.63	. .
	Sun II	20	5.7	7.2	9.2	18.8	20.0	21.3	22.3	23.4	33.1	34.4	36.4	23 21.13	— 0.01	54.07	10 22 27.05	. .
	Mercury I	†21	56.7	58.5	59.7	9.4	10.4	11.6	. .	13.9	23.2	24.6	26.4	28 11.44	+ 0.11	54.08	11 27 17.47	0.32
	β Leonis	22	49.9	52.0	53.2	3.2	4.3	5.5	6.8	7.9	17.5	18.9	20.9	43 5.46	0.00	54.08	11 42 11.38	14.14
	Polaris, S. P.	23	17.0	32.0	47.0	57.0	. .	. .	. .	59.0	14.0	22.0	27.0	0 26.88	+11 20.41	54.09	1 10 53.20	25.79
	α Virginis	24	45.7	47.7	49.0	58.7	59.7	0.9	2.2	3.2	12.8	14.1	16.1	19 0.92	— 0.03	54.09	13 18 6.80	13.97
Y.	η Bootis	25	54.9	56.9	58.2	8.3	9.5	10.9	12.2	13.3	23.0	24.5	26.7	49 10.76	0.00	53.97	13 48 16.79	12.90
	Moon I	26	6.3	8.3	9.5	19.6	20.7	22.1	23.3	24.3	34.2	35.5	37.5	11 21.94	— 0.03	53.97	14 10 27.94	. .
	ε Bootis	27	43.8	46.1	47.4	58.4	59.5	0.9	2.3	3.4	14.0	15.5	17.7	40 0.82	+ 0.01	53.97	14 39 6.86	11.74
	α Libræ	28	18.9	20.1	21.3	22.5	23.7	. .	52.2	54.7	55.9	57.2	58.5	44 38.50	— 17.29	53.97	14 43 27.24	+ 14.20
Tr.	δ Ursæ Minoris	29	. .	. .	. .	8.0	26.0	46.0	6.0	23.0	. .	. .	. .	16 45.80	0.11	54.12	18 15 51.57	— 93.36
1	Aquilæ	30	34.0	36.1	37.3	46.9	48.0	49.2	50.5	51.5	1.1	2.4	4.4	28 49.22	— 0.03	54.12	18 27 55.07	+ 12.94
	Lalande 35006	31	9.3	15.4	18.7	47.0	50.1	53.5	57.2	0.1	27.7	31.4	37.3	38 53.43	+ 0.17	54.12	18 37 59.48	— 7.99
51	Cephei, S. P.	32	49.5	22.0	55.0	30.0	41.5	.	. .	. .	. .	. .	. .	48 51.60	—11 39.00	54.12	6 36 18.48	+ 145.15
	Weisse 1285	33	. .	. .	. .	. .	23.5	24.7	25.9	27.1	36.7	38.0	39.9	52 30.83	6.19	54.12	18 51 30.52	13.16
	Weisse 1314	34	18.5	20.5	21.7	31.7	32.7	33.9	34.1	36.2	45.8	47.2	49.2	53 33.77	— 0.03	54.12	18 52 39.62	13.16
	* — 7° 30′	35	54.7	56.1	57.4	58.6	1.0	. .	1.5	3.9	5.1	6.3	7.6	56 31.22	+ 0.20	54.12	18 55 37.30	12.66
	Weisse 1398	36	28.3	30.2	31.3	41.2	42.2	43.3	44.6	45.6	55.3	56.5	58.5	56 43.36	— 0.03	54.12	18 55 49.21	12.75
	Weisse 1412	37	. .	. .	. .	21.3	22.5	24.5	39.5	41.8	43.0	44.3	45.6	57 35.31	25.95	54.12	18 56 15.24	12.75
	O. Arg. S. 19083	38	48.5	50.6	51.8	1.8	3.0	4.2	5.4	6.4	16.4	17.7	19.7	0 4.14	0.04	54.12	18 59 9.98	13.55
	O. Arg. S. 19256	39	13.7	16.0	17.2	27.6	28.7	29.9	31.4	32.6	42.7	44.1	46.3	6 30.02	0.05	54.12	19 5 35.85	14.22
ω	Aquilæ	40	10.8	12.9	14.2	24.0	25.1	26.2	27.4	28.5	38.2	39.5	40.4	12 26.11	0.01	54.12	19 11 31.98	10.85
	O. Arg. S. 19418	41	6.6	8.9	10.2	. .	. .	. .	. .	. .	36.6	37.8	40.1	14 23.37	0.01	54.13	19 13 29.23	14.58
	O. Arg. S. 19423	42	. .	. .	. .	30.9	32.1	33.3	34.6	35.9	. .	. .	. .	14 33.36	0.10	54.13	19 13 39.13	14.55
	* — 39° 4′	43	37.6	40.2	41.6	54.2	55.4	56.9	58.5	59.9	22.0	23.7	26.3	28 56.94	0.07	54.13	19 28 2.74	16.00
	* — 23° 59′	44	. .	. .	. .	. .	. .	. .	5.0	7.6	8.8	10.2	11.7	34 8.66	36.38	54.13	19 32 38.15	14.18
γ	Aquilæ	45	32.7	34.8	36.1	45.8	46.8	48.1	49.3	50.4	0.0	1.3	3.3	40 48.05	0.01	54.13	19 39 53.91	10.87
	O. Arg. S. 19987	46	31.4	33.6	35.0	45.5	46.6	47.9	49.3	50.3	0.7	2.1	4.2	42 47.87	0.05	54.13	19 41 53.69	14.12
	Weisse 1150	47	49.1	51.2	52.5	2.3	3.5	4.7	6.0	7.0	16.8	18.1	20.1	47 4.66	0.04	54.13	19 46 10.49	13.16
	Weisse 1319	48	14.4	16.5	17.7	27.7	28.7	29.8	31.2	32.2	42.0	43.2	45.3	54 29.88	0.04	54.13	19 53 35.71	+ 13.11
λ	Ursæ Minoris	49	. .	. .	. .	34.0	31.0	33.0	36.0	28.0	. .	. .	. .	0 32.40	0.32	54.13	19 59 37.95	— 315.80
	O. Arg. S. 20311	50	35.4	37.6	38.9	49.4	50.6	51.8	53.2	54.3	4.5	6.0	8.1	5 51.80	— 0.05	—54.13	20 4 57.62	+ 13.68

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 26, 13.3	— 54.09	— 0.006	— 0.02
23.3	— 54.11	+ 0.017	

21. Very faint.

August 26, n. = + 0.06.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 26	* — 24° 15′	1	50.6	52.8	54.1	4.7	5.8	7.1	8.3	9.5	19.8	21.3	23.5	9 7.05	— 0.05	—54.13	20 8 12.87	+ 13.94
Tr	α^2 Capricorni	2	16.4	18.4	19.6	29.5	30.6	31.8	33.1	34.2	43.7	45.1	47.2	11 31.78	0.03	54.14	20 10 37.61	12.89
	Weisse 1223	3	12.2	14.2	15.5	25.0	26.0	27.2	28.5	29.5	38.9	40.1	42.2	59 27.21	0.03	54.12	22 58 33.06	11.81
	Weisse 1248	4	25.3	27.2	28.4	38.0	39.2	40.4	41.5	42.5	52.1	53.3	55.3	0 40.29	0.03	54.12	22 59 46.14	11.80
	* — 20° 27′	5	40.1	42.2	43.4	53.7	54.9	56.1	57.4	58.5	8.6	10.0	12.1	7 56.09	0.04	54.11	23 7 1.94	12.24
	γ Piscium	6	52.9	54.9	56.2	5.6	6.8	7.9	9.2	10.2	19.6	20.9	22.9	11 7.92	0.02	54.11	23 10 13.79	11.77
	* — 1° 7′	7	9.4	11.4	12.6	22.2	23.3	24.4	25.7	26.7	36.2	37.5	39.4	16 24.44	0.02	54.11	23 15 30.31	11.69
	Juno	8	12.6	14.7	15.8	25.3	26.5	27.7	28.7	29.9	39.2	40.5	42.5	17 27.58	0.02	54.11	23 16 33.45	. .
	θ Piscium	9	50.0	52.0	53.3	2.8	3.9	5.1	6.3	7.3	16.3	18.1	20.1	22 5.02	0.01	54.11	23 21 10.90	11.47
	12 Ceti	10	51.5	53.5	54.8	4.3	5.4	6.6	7.8	8.8	18.2	19.6	21.5	24 6.55	0.03	54.09	0 23 12.43	11.81
	B. A. C. 138	11	18.6	20.7	21.9	31.5	32.6	33.7	35.0	36.0	45.4	46.7	48.7	28 33.71	0.03	54.09	0 27 39.59	11.82
	Lalande 45758	12	..	..	..	..	..	..	17.7	20.1	21.3	22.4	23.8	34 21.06	33.26	54.09	0 32 53.71	11.86
	Weisse 583	13	7.2	9.2	10.5	20.1	21.2	22.3	23.5	24.5	34.1	35.4	37.3	35 22.30	0.02	54.09	0 34 28.19	11.87
	Weisse 588	14	..	..	..	45.1	46.1	47.3	48.4	49.4	58.9	0.2	2.2	35 52.20	5.01	54.09	0 34 53.10	11.87
	* + 2° 28′	15	41.2	43.2	44.2	54.1	55.1	56.3	57.6	58.5	7.9	9.2	11.2	38 56.23	0.02	54.09	0 38 2.12	11.88
	Neptune	16	12.0	14.0	15.2	25.0	25.9	27.1	28.3	29.3	38.8	39.9	42.1	40 27.05	0.02	54.09	0 39 32.94	. .
	* + 3° 0′	17	12.2	14.2	15.5	25.2	26.2	27.3	28.5	29.5	39.0	40.4	42.3	43 27.30	0.02	54.09	0 42 33.19	11.91
	Weisse 786	18	22.3	24.3	25.7	35.4	36.5	37.7	38.8	39.9	49.5	50.7	52.8	46 37.60	0.01	54.09	0 45 43.50	11.98
	Weisse 928	19	34.6	36.5	37.6	47.4	48.5	49.6	50.7	51.9	1.3	2.6	4.6	54 49.57	0.02	54.08	0 53 55.47	11.98
	Weisse 1041	20	13.6	15.6	16.7	26.4	27.5	28.7	29.8	30.9	40.3	41.6	43.5	0 28.60	0.02	54.08	0 59 34.50	11.94
	* + 11° 55′	21	47.4	49.5	50.9	..	1.7	2.8	4.2	5.2	14.7	16.1	18.1	3 3.06	— 0.23	54.08	1 2 8.75	12.14
	Weisse 13	22	36.9	38.9	40.1	50.2	51.1	52.3	53.5	54.5	..	..	..	3 47.17	+ 5.06	54.08	1 2 58.15	12.14
	Polaris	23	..	..	..	18.0	2.0	46.0	38.0	15.0	..	..	..	11 47.80	— 0.25	54.08	1 10 53.47	25.43
	θ Ceti	24	58.7	0.8	2.1	11.7	12.7	13.9	15.1	16.2	25.7	26.9	29.1	18 13.90	0.03	54.08	1 17 19.79	11.76
27	Polaris, S. P.	25	36.0	42.0	47.0	56.0	20.0	..	..	..	..	..	..	34 40.20	22 52.32	53.99	1 10 53.89	25.08
	α Virginis	26	45.6	47.6	48.9	58.7	59.7	0.9	2.1	3.4	12.8	14.2	16.2	19 0.92	— 0.04	53.99	13 18 6.89	13.98
	η Bootis	27	54.9	57.0	58.2	8.5	9.6	10.7	12.1	13.2	23.1	24.4	26.5	49 10.75	+ 0.01	53.98	13 48 16.78	12.92
	α Bootis	28	9.6	11.8	13.1	23.3	24.4	25.7	27.0	28.1	38.1	39.4	41.5	10 25.64	0.01	53.98	14 9 31.67	12.28
	ϵ Bootis	29	43.7	46.0	47.3	58.3	59.5	0.8	2.2	3.2	13.9	15.3	17.6	40 0.71	+ 0.03	53.98	14 39 6.76	11.75
	α Libræ	30	..	..	..	33.3	34.8	36.8	52.2	54.7	55.9	57.1	58.6	44 47.92	— 26.71	53.97	14 43 27.24	+ 14.21
	Moon I	†31	47.6	49.0	..	51.6	54.3	23.8	25.1	26.4	..	..	..	0 12.76	+ 13.43	53.97	14 59 32.22	. .
	Venus II	32	31.0	33.2	34.5	44.8	46.0	47.3	48.5	49.7	59.8	1.0	3.3	42 47.19	0.00	54.15	7 41 53.04	— 0.59
28	Sun I	†33	5 2	6.9	8.5	28.1	29.5	30.7	31.9	33.1	42.3	43.7	45.8	28 30.52	— 0.01	54.19	10 27 36.32	. .
	Sun II	34	24.4	26.5	27.6	37.5	38.5	39.7	40.9	42.1	51.7	53.0	54.9	30 39.71	— 0.01	54.19	10 29 45.51	. .
	β Leonis	†35	50.0	52.1	53.5	3.4	4.5	5.7	7.1	8.0	17.8	19.2	21.0	43 5.66	0.00	54.21	11 42	+ 14.19
	Polaris, S. P.	†36	21.0	37.0	45.0	0.0	19.0	..	36.0	59.0	..	25.0	..	3 37.75	+ 8 9.79	54.22	1 10	24.38
Y.	α Bootis	37	9.8	12.0	13.3	23.5	24.6	26.0	27.2	28.2	38.2	39.7	41.8	10 25.85	0.00	54.18	14 9 31.67	12.29
	ϵ Bootis	38	43.8	46.3	47.6	58.4	59.7	1.0	2.4	3.5	14.2	15.6	17.9	40 0.95	0.02	54.18	14 39 6.79	11.77
	α Coronæ Borealis	39	37.2	39.5	40.8	51.7	52.8	54.3	55.7	56.7	7.2	8.8	11.0	29 54.15	+ 0.02	54.20	15 28 59.97	11.08
	Moon I	40	1.9	4.2	5.3	15.8	16.9	18.2	19.4	20.5	30.6	32.0	34.2	51 18.09	— 0.06	54.20	15 50 23.83	. .
	β Scorpii	41	16.5	18.8	20.1	30.2	31.4	32.7	33.8	35.0	45.0	46.3	48.5	58 32.57	0.07	54.20	15 58 38.30	14.56
Tr.	η Serpentis	42	1.9	4.0	5.1	14.7	15.8	16.9	18.2	19.3	28.7	29.9	32.0	15 16.95	0.04	54.30		12.33
29	Moon I	43	54.3	56.6	57.9	8.3	9.4	..	11.8	13.1	23.3	24.7	26.7	44 10.61	0.03	54.52	16 43 16.06	. .
	κ Ophiuchi	44	58.5	0.6	1.7	11.5	12.6	13.7	14.9	16.0	25.6	26.9	28.9	52 13.72	0.03	54.51	16 51 19.18	+ 11.70
	ϵ Ursæ Minoris	45	53.5	8.4	17.1	28.5	36.4	45.2	54.5	1.8	12.0	20.5	35.9	0 44.89	0.15	54.51	16 59 50.23	— 27.42
	α Herculis, (1st *)	46	11.0	13.2	14.4	24.3	25.4	26.6	27.8	28.8	38.6	39.9	41.9	9 26.54	— 0.03	54.50	17 8 32.01	+ 11.19
	α Herculis, (2d *)	47	49.2	50.6	51.9	53.2	55.7	..	57.7	0.0	1.2	2.6	4.0	9 26.61	+ 0.20	54.50	17 8 32.31	11.19
	θ Ophiuchi	48	24.6	26.8	28.2	38.7	40.0	41.2	42.5	43.6	54.1	55.5	57.7	14 41.17	— 0.04	54.50	17 13 46.63	15.02
	b Ophiuchi	49	49.1	51.3	52.7	3.2	4.4	5.6	7.0	8.2	18.4	19.8	22.0	19 5.61	— 0.04	—54.50	17 18 11.07	+ 14.91

31. Clouds.
33. Tremulous.
35. Very faint.
36. Very faint.

August 27–28 n. = + 0.10.
29–30. P. and P. S. P., + 0.01.

August 29. Stars blurred; very bad night for observing.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Aug. 27, 14.1	— 53.98	+ 0.009	— 0.02
28, 15.1	54.19	— 0.014	— 0.03
29, 20.5	— 54.40	+ 0.031	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 29	Weisse 508	1	28.1	30.1	31.2	41.2	42.3	43.4	44.7	45.8	55.5	56.8	58.8	28 43.45	— 0.03	—54.49	17 27 48.93	+ 11.25
Tr. α	Ophiuchi	2	21.9	24.0	25.2	35.0	36.1	37.3	38.5	39.6	49.3	50.7	52.7	29 37.30	0.03	54.49	17 29 42.78	11.27
γ	Piscium	3	53.2	55.4	56.5	6.1	7.1	8.3	9.4	10.5	19.9	21.1	23.2	11 8.25	0.03	54.31	23 10 13.91	11.74
	Juno	4	21.0	23.0	24.2	33.7	34.7	35.9	37.3	38.4	47.7	49.0	50.8	14 35.97	— 0.03	54.31	23 13 41.63	. .
	Radcliffe 6064	5	38.3	41.6	43.8	0.0	2.0	4.2	5.9	8.0	. .	. .	. .	18 55.48	+ 8.47	54.31	23 18 9.64	8.59
	Radcliffe 6067	6	16.9	20.5	22.4	39.0	40.8	42.8	45.0	46.6	2.8	4.9	8.4	19 42.74	— 0.04	54.31	23 18 48.39	8.62
	* + 54° 20′	7	20.7	24.2	26.3	42.8	44.8	46.7	48.8	50.4	6.6	8.7	12.2	20 46.75	0.04	54.31	23 19 52.40	8.65
ι	Piscium	8	43.4	45.5	46.8	56.4	57.5	58.7	59.8	1.0	10.3	11.5	13.5	33 58.58	0.03	54.31	23 33 4.25	11.65
ω	Piscium	9	5.7	7.7	8.8	18.6	19.7	20.9	22.1	23.3	32.6	34.0	35.7	53 20.83	0.03	54.29	23 52 26.51	11.65
	* + 1° 33′	10	17.9	19.9	21.1	30.9	32.2	33.3	34.5	35.5	44.7	46.0	48.1	58 33.10	0.03	54.29	23 57 38.78	11.56
	Weisse 1186	11	57.9	0.0	1.3	10.7	11.8	13.1	14.3	15.4	24.7	26.1	28.1	59 13.04	0.03	54.29	23 58 18.72	11.56
	O. Arg. N. 26423	12	38.3	41.8	43.4	59.8	1.5	4.0	6.4	7.6	23.0	25.1	28.6	2 3.55	0.04	54.29	0 1 9.22	10.27
	O. Arg. N. 14	13	. .	. .	. .	37.9	40.1	41.8	43.8	45.5	1.5	3.5	6.8	2 50.11	— 8.32	54.29	0 1 47.50	10.30
	* + 2° 28′	14	20.0	21.5	22.7	24.0	26.3	. .	26.5	28.7	29.8	31.1	32.3	38 56.29	+ 0.20	54.27	0 38 2.22	11.83
	Neptune	15	58.1	0.3	1.5	11.0	12.2	13.2	14.4	15.5	25.0	26.2	28.2	40 13.24	— 0.03	54.27	0 39 18.94	. .
	* + 3° 0′	†16	12.7	14.7	15.9	25.6	26.7	27.8	28.9	30.1	39.3	40.6	42.6	43 27.72	0.03	54.27	0 42 33.42	11.85
ε	Piscium	17	39.1	41.1	42.3	52.2	53.4	. .	55.6	56.6	6.1	7.5	9.4	56 54.33	— 0.02	54.26	0 56 0.05	11.94
	Polaris	18	7.0	1.0	54.0	44.0	22.0	. .	. .	. .	. .	. .	. .	49 1.60	+22 48.47	54.27	1 10 55.80	23.33
30	Sun I	19	32.5	34.5	35.8	45.6	46.7	47.9	49.1	50.0	59.4	0.9	2.9	35 47.75	— 0.04	54.19	10 34 53.52	. .
	Sun II	20	. .	. .	. .	8.7	10.0	11.8	27.3	29.7	30.8	32.1	33.3	38 22.96	— 26.11	54.19	10 37 2.66	. .
Y.	Polaris, S. P.	†21	. .	. .	. .	19.0	35.0	45.0	57.0	17.5	55.0	1.0	42.0	8 26.44	+ 3 23.83	54.11	1 10 56.16	23.01
α	Virginis	22	45.9	47.9	49.0	58.8	59.7	0.9	2.2	3.2	12.9	14.1	16.2	19 0.98	— 0.04	54.11	13 18 6.83	14.01
α	Bootis	23	9.8	12.0	13.3	23.5	24.5	25.8	27.2	28.2	38.2	39.6	41.7	10 25.80	— 0.04	54.12	14 9 31.64	+ 12.32
ε	Ursæ Minoris	24	52.0	7.1	16.3	27.5	35.2	44.1	53.4	0.7	10.9	20.2	35.0	0 43.65	+ 0.15	54.12	16 59 49.88	— 27.22
η	Ophiuchi	25	. .	. .	. .	33.3	34.4	35.6	36.7	37.9	. .	. .	. .	3 35.58	— 0.11	54.12	17 2 41.35	+ 14.10
ν	Serpentis	26	55.9	58.1	59.3	9.0	10.2	11.3	12.6	13.7	23.4	24.6	26.7	14 11.35	0.03	54.12	17 13 17.20	13.78
b	Ophiuchi	27	48.7	50.9	52.2	2.7	3.9	5.2	6.5	7.6	18.0	19.4	21.6	19 5.15	0.07	54.12	17 18 10.96	14.93
α	Ophiuchi	28	21.5	23.5	24.7	34.6	35.7	36.9	38.1	39.1	48.8	50.2	52.1	29 36.84	0.03	54.12	17 28 42.69	11.29
ξ	Serpentis	29	. .	. .	. .	46.5	47.6	48.8	50.0	51.1	1.0	2.2	4.3	30 53.94	5.23	54.12	17 29 54.59	13.98
	Moon I	30	47.0	49.3	50.6	1.0	2.1	3.4	4.7	5.8	16.1	17.4	19.6	39 3.36	0.06	54.12	17 38 9.18	. .
	Dorpat 2234	31	21.4	22.5	24.7	34.4	35.4	36.6	37.9	38.8	48.4	49.6	51.7	46 36.49	0.03	54.12	17 45 42.34	13.18
4	Sagittarii	32	14.3	16.5	17.8	28.4	29.5	30.8	32.0	33.2	43.5	45.0	47.0	52 30.73	0.07	54.12	17 51 36.54	14.79
μ	Sagittarii	33	23.0	25.2	26.4	36.7	37.9	39.2	40.4	41.5	51.7	53.1	55.2	6 39.12	— 0.07	54.12	18 5 44.93	+ 14.41
δ	Ursæ Minoris	34	28.0	1.5	22.0	5.5	23.0	43.0	4.0	21.0	0.0	22.5	55.0	16 42.32	+ 1.24	54.12	18 15	— 91.81
1	Aquilæ	35	33.9	36.1	37.2	46.8	48.0	49.2	50.4	51.5	1.0	2.3	4.2	28 49.15	— 0.05	54.12	18 27 54.98	+ 13.00
51	Cephei, S. P.	36	26.0	43.5	19.0	59.0	37.5	13.5	47.0	27.0	10.5	43.0	. .	37 44.60	30.36	54.12	6 36 20.12	143.23
Tr. 31	Polaris, S. P.	†37	17.0	25.0	34.0	44.0	. .	4.0	43.0	51.0	30.0	49.0	. .	25 26.33	13 34.00	53.57	1 10 58.76	22.40
η	Bootis	38	. .	. .	. .	. .	. .	. .	42.2	44.6	46.0	47.5	48.8	49 45.82	35.56	53.56	13 48 16.70	12.97
τ	Virginis	39	39.6	40.6	41.8	43.1	44.1	. .	12.3	14.4	15.6	16.8	18.1	55 58.63	16.79	53.56	13 54 48.28	13.57
μ	Sagittarii	40	22.5	24.6	25.9	36.0	37.1	38.5	39.6	40.9	51.1	52.5	54.7	6 38.49	— 0.01	53.55	18 5 44.93	+ 14.43
δ	Ursæ Minoris	41	26.0	0.0	22.0	2.0	19.0	40.0	0.0	17.0	0.0	21.0	55.0	16 40.40	+ 1.52	53.55	18 15 48.37	— 91.40
24	Sagittarii	42	19.6	21.6	23.0	33.4	34.5	35.8	37.1	38.3	48.8	50.1	52.3	26 35.86	— 0.01	53.55	18 25 42.30	+ 14.67
1	Aquilæ	43	33.4	35.4	36.7	46.2	47.2	48.5	49.6	50.7	0.5	1.6	2.7	28 48.41	+ 0.01	53.55	18 27 54.87	13.01
	Moon I	44	24.3	26.3	27.7	37.9	39.0	40.3	41.5	42.8	53.3	54.7	56.7	35 40.41	0.00	53.55	18 34 46.86	. .
51	Cephei, S. P.	45	43.0	15.0	50.0	25.0	37.0	28.0	48.0	21.0	. .	. .	. .	46 10.88	— 8 55.10	53.54	6 36 22.24	142.69
o^1	Sagittarii	46	16.7	18.7	20.2	30.3	31.5	32.6	34.1	35.3	45.6	46.9	48.9	57 32.80	— 0.01	53.54	18 56 39.25	14.26
ζ	Aquilæ	47	53.5	55.5	57.0	6.6	7.8	8.9	10.1	11.2	21.2	22.4	24.4	0 8.96	+ 0.04	53.54	18 59 15.46	10.69
π	Sagittarii	48	25.2	27.3	28.8	38.9	40.0	41.2	42.4	43.6	54.0	55.3	57.4	2 41.28	— 0.01	53.54	19 1 47.73	14.16
20	Aquilæ	49	3.1	5.0	6.4	16.0	17.0	18.2	19.5	20.5	30.3	31.5	33.5	6 18.27	+ 0.01	—53.54	19 5 24.74	+ 12.83

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 30, 16.5	— 54.12	— 0.002	— 0.04
31, 20.0	— 53.54	+ 0.004	+ 0.02

16. Very faint: observation doubtful.
21. Faint.
37. Cloudy.

August 30, 17h. to 19h. n. = + 0.06.
31. . . + 0.07.

August 30, 19h. Image west 0.08. Clamp west.
Image east 0.12. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 31	Dorpat 2492, (1st *)	1	22.2	24.1	25.5	. .	. .	. .	. .	. .	48.9	50.2	52.1	12 37.17	— 0.02	—53.54	19 11 43.61	+ 11.94
Tr.	Dorpat 2492, (2d *)	2	. .	. .	. .	35.0	. .	37.2	38.4	39.3	. .	. .	. .	12 37.48	0.24	53.54	19 11 43.70	11.94
	O. Arg. S. 19418	3	. .	. .	. .	20.1	21.2	22.5	23.9	25.2	35.9	37.2	39.5	14 28.19	5.55	53.54	19 13 29.10	14.64
	O. Arg. S. 19423	4	. .	. .	. .	45.8	47.4	49.5	6.4	9.1	10.6	11.9	13.6	15 1.79	29.06	53.54	19 13 39.19	14.64
	* — 8° 27′	5	. .	. .	. .	41.1	42.4	44.4	59.7	2.2	3.3	4.7	6.0	17 55.48	26.28	53.54	19 16 35.66	12.79
	O. Arg. S. 19575	6	37.6	39.6	41.1	51.2	52.4	53.8	55.0	56.2	6.7	8.0	10.1	20 53.79	0.01	53.54	19 20 0.24	14.24
	* — 23° 29′	7	15.7	17.9	19.3	29.5	30.6	31.9	33.2	34.3	44.8	46.1	48.4	24 31.97	0.01	53.54	19 23 38.42	14.25
	O. Arg. S. 19683	8	. .	. .	. .	46.7	48.0	50.3	7.3	10.0	11.3	12.8	14.3	26 2.59	29.03	53.54	19 24 40.02	14.54
	* — 23° 59′	9	38.5	40.4	42.0	52.3	53.3	54.7	56.0	57.2	7.6	8.9	11.2	33 54.74	0.01	53.54	19 33 1.19	14.23
	* — 23° 58′	10	15.3	17.4	18.8	29.1	30.2	31.6	32.9	34.1	44.6	45.8	48.0	34 31.62	0.01	53.54	19 33 38.07	14.22
	* — 23° 59′	11	. .	. .	. .	59.0	0.1	1.4	2.6	3.8	. .	. .	. .	35 1.38	0.06	53.54	19 34 7.78	14.23
	* — 23° 12′	12	9.3	11.4	12.8	23.1	24.2	25.5	26.7	27.9	38.5	39.7	41.9	37 25.55	— 0.01	53.54	19 36 32.00	14.12
	γ Aquilæ	13	32.2	34.2	35.5	45.1	46.1	47.3	48.6	49.6	59.4	0.6	2.6	40 47.38	+ 0.03	53.54	19 39 53.87	10.92
	* — 10° 20′	14	. .	. .	. .	37.0	38.0	39.1	40.4	41.6	51.4	52.6	54.6	42 44.34	— 5.03	53.54	19 41 45.77	12.86
	* — 38° 37′	15	47.5	50.0	51.5	3.7	5.0	6.5	8.1	9.5	21.7	23.3	25.8	48 6.60	0.03	53.54	19 47 13.03	15.80
	O. Arg. S. 20145	16	28.2	30.3	31.6	42.0	43.0	44.3	45.6	46.7	57.2	58.4	0.7	53 44.36	0.01	53.54	19 52 50.81	13.99
	O. Arg. S. 20154	17	3.5	5.5	6.9	17.4	18.4	19.7	21.0	22.2	32.6	33.8	36.2	54 19.75	— 0.01	53.54	19 53 26.20	+ 13.99
	λ Ursæ Minoris	18	. .	. .	. .	18.0	9.0	14.0	19.0	9.0	. .	. .	. .	0 13.80	+ 7.16	53.54	19 59 27.42	— 311.60
	O. Arg. S. 20294	19	13.3	15.3	16.6	26.6	27.6	28.9	30.1	31.3	41.4	42.5	44.8	4 28.95	0.00	53.54	20 3 35.41	+ 13.45
	Weisse 122	20	18.5	20.5	21.8	31.5	32.5	33.7	34.9	36.1	46.1	47.2	49.4	7 33.84	0.00	53.54	20 6 40.30	13.07
	a^2 Capricorni	21	15.8	17.7	19.0	28.7	29.8	30.9	32.2	33.3	43.2	44.4	46.5	11 31.05	0.00	53.54	20 10 37.51	12.92
	O. Arg. S. 20428	22	55.9	58.0	59.2	9.2	10.3	11.5	12.8	13.8	24.1	25.2	27.3	14 11.57	0.00	53.54	20 13 18.03	13.29
	γ Piscium	23	52.4	54.3	55.7	5.1	6.1	7.3	8.5	9.5	19.3	20.4	22.3	11 7.35	0.02	53.53	23 10 13.84	11.72
	Juno	24	1.4	3.5	4.9	14.2	15.2	16.3	17.5	18.6	28.3	29.5	31.5	14 16.45	+ 0.02	53.53	23 13 22.94	. .
	B. A. C. 8155	25	38.0	40.2	41.5	51.9	53.0	54.3	55.5	56.8	7.0	8.3	10.6	17 54.28	— 0.01	53.53	23 17 0.74	12.16
	θ Piscium	26	49.4	51.4	52.7	2.2	3.3	4.5	5.6	6.7	16.5	17.6	19.7	22 4.51	+ 0.03	53.53	23 21 11.01	11.42
	β Ceti	27	29.7	31.8	33.1	43.1	44.3	45.6	46.8	47.8	58.0	59.3	1.4	37 45.54	0.00	53.52	0 36 52.02	11.64
	* + 2° 28′	28	40.8	42.7	44.1	53.5	54.5	55.6	56.6	57.9	7.5	8.7	10.7	38 55.69	0.02	53.52	0 38 2.19	11.80
	Neptune	29	47.6	49.6	50.8	0.2	1.4	2.6	3.7	4.8	14.3	15.6	17.6	40 2.56	0.02	53.52	0 39 9.06	. .
	* + 3° 0′	30	11.9	13.8	15.2	24.7	25.7	26.8	28.0	29.1	38.6	39.7	41.7	43 26.84	0.02	53.52	0 42 33.34	11.82
	Polaris	†31	24.0	22.0	9.0	59.0	35.0	. .	. .	. .	. .	. .	. .	49 17.80	22 34.61	53.52	1 10 58.89	22.10
	θ Ceti	32	58.2	0.1	1.4	11.0	12.1	13.3	14.4	15.5	25.4	26.5	28.6	18 13.32	0.01	53.52	1 17 19.81	+ 11.66
E.	Venus II	33	45.4	47.4	48.9	58.8	59.9	1.1	2.4	3.5	14.0	15.1	17.2	2 1.25	0.08	53.32	8 1 8.01	— 0.57
Sept. 1	Sun I	34	47.7	49.7	50.9	0.3	1.5	2.7	3.9	5.0	14.7	16.0	18.1	43 2.77	0.06	53.30	10 42 9.53	. .
	Sun II	35	56.1	58.1	59.3	9.1	10.1	11.2	12.4	13.5	23.5	24.5	26.6	45 11.31	0.06	53.30	10 44 18.07	. .
	α Lyræ	36	58.6	1.1	2.9	14.9	16.1	17.7	19.1	20.5	32.9	34.4	37.0	33 17.75	+ 0.14	53.24	18 32 24.65	+ 7.61
	Lacaille 7838	37	54.0	56.3	58.0	9.8	11.0	12.5	14.0	15.1	27.1	28.5	31.0	37 12.48	— 0.03	53.24	18 36 19.21	16.11
	σ Sagittarii	38	34.0	36.1	37.6	48.3	49.3	50.6	51.9	52.9	3.7	5.0	7.4	47 50.62	0.01	53.24	18 46 57.37	14.83
	Weisse 1285	39	. .	. .	. .	35.7	36.9	38.9	54.6	57.1	58.4	59.5	1.0	52 50.26	— 26.65	53.24	18 51 30.37	13.37
	Weisse 1314	40	17.5	19.5	20.7	30.5	31.6	32.8	34.0	35.1	45.0	46.1	48.1	53 32.81	+ 0.02	53.24	18 52 39.59	13.36
	Dorpat 2434, (1st *)	41	7.8	9.2	10.4	11.6	14.0	. .	13.9	19.2	17.5	18.9	20.3	56 43.98	— 0.19	53.24	18 55 50.55	12.19
	Dorpat 2434, (2d *)	42	30.0	32.0	33.2	42.7	43.6	44.9	46.0	47.1	56.9	58.0	0.0	56 44.95	+ 0.04	53.24	18 55 51.75	12.19
	* — 8° 2′	43	57.7	59.7	0.9	10.6	11.6	12.6	13.9	15.0	24.6	25.9	28.0	4 12.78	0.03	53.23	19 3 19.58	12.84
	* — 8° 3′	44	37.3	39.3	40.7	50.2	51.3	52.5	53.6	54.7	4.4	5.5	7.7	4 52.47	0.03	53.23	19 3 59.27	12.84
	d Sagittarii	45	25.2	27.3	28.6	38.6	39.7	40.9	42.2	43.3	53.5	54.8	56.9	10 41.00	0.00	53.23	19 9 47.77	13.89
	ρ^1 Sagittarii	46	31.6	33.7	35.0	44.9	46.0	47.5	48.6	49.7	59.8	0.9	3.1	14 47.53	0.01	53.23	19 13 54.31	13.77
	* — 8° 9′	47	27.1	29.1	30.5	40.1	41.1	42.3	43.5	44.5	54.5	55.5	57.5	18 42.34	+ 0.03	53.23	19 17 49.14	12.78
	* — 23° 26′	48	32.7	35.1	36.5	46.7	47.8	49.2	50.4	51.6	2.0	3.2	5.4	23 49.15	0.00	53.23	19 22 55.92	14.28
	* — 39° 3′	49	36.4	39.1	40.8	52.9	54.3	56.0	57.3	58.7	11.2	12.7	15.3	29 55.88	— 0.04	53.23	19 29 2.61	+ 16.07
	Moon I	50	19.0	21.1	22.4	32.5	33.6	35.0	36.2	37.3	47.7	48.9	51.1	33 34.98	+ 0.01	—53.23	19 32 41.76	. .

31. Blurred.

September 1, n. = + 0.11.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 1, 20.9	— 53.22	+ 0.008	+ 0.04

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 1	O. Arg. S. 19909	1	15.6	17.8	19.0	29.5	30.5	31.8	33.2	34.4	44.8	46.1	48.4	37 31.92	0.00	−53.23	19 36 38.69	+ 14.17
E.	*f* Sagittarii	2	10.2	12.2	13.5	23.7	24.8	. .	27.1	28.4	38.6	39.9	42.1	39 26.05	— 0.01	53.23	19 38 32.81	+ 13.81
	λ Ursæ Minoris	3	. .	. .	. .	13.5	2.0	6.0	10.0	1.5	. .	. .	. .	0 6.60	+ 10.31	53.23		— 310.59
	π Capricorni	4	16.7	18.8	20.2	30.1	31.2	32.3	33.6	34.7	45.0	46.2	48.4	20 32.46	+ 0.01	53.22	20 19 39.27	+ 13.38
	γ Piscium	5	. .	. .	. .	18.8	20.0	21.9	37.4	39.5	40.8	42.2	43.4	11 33.00	— 25.98	53.20	23 10 13.82	11.71
	Juno	6	20.9	23.2	24.2	33.7	34.7	35.8	37.0	38.0	47.7	49.0	51.1	13 35.94	+ 0.04	53.20	23 12 42.78	. .
	Weisse 242	7	. .	. .	. .	57.1	58.3	0.0	15.4	17.8	19.0	20.3	21.7	14 11.20	— 25.99	53.20	23 12 52.01	11.67
	Weisse 246	8	. .	. .	. .	. .	. .	. .	34.4	36.6	37.9	39.4	40.6	14 37.78	— 33.63	53.20	23 13 10.95	11.67
	Radcliffe 6067	9	15.7	19.2	21.3	37.8	39.5	41.5	43.6	45.3	1.6	3.6	7.1	19 41.47	+ 0.22	53.20	23 18 48.49	8.59
	* + 54° 18′	10	19.8	23.1	25.4	41.7	43.1	45.2	47.4	49.4	5.7	7.6	11.3	20 45.43	0.22	53.20	23 19 52.45	8.61
	* + 54° 19′	11	28.5	31.5	33.3	50.0	51.6	53.8	55.7	57.7	14.2	16.2	19.9	20 53.84	0.22	53.20	23 20 1.66	8.63
	Weisse 1097	12	59.5	0.6	1.8	3.0	4.0	. .	32.2	34.5	35.8	37.1	38.5	55 18.70	16.85	53.20	23 54 8.65	11.72
	Weisse 1186	13	56.8	58.8	0.0	9.5	10.6	11.7	12.9	14.0	23.7	24.7	26.8	59 11.77	0.04	53.20	23 58 18.61	11.65
	Weisse 90	14	52.0	54.0	55.1	4.6	5.6	6.8	8.0	9.0	18.8	19.8	21.9	7 6.87	0.05	53.19	0 6 13.73	11.67
	* + 7° 20′	15	12.9	14.7	16.0	25.5	26.6	27.6	28.9	29.9	39.7	40.8	42.9	22 27.78	0.05	53.19	0 21 34.64	11.71
	Weisse 358	16	7.6	9.8	10.9	20.2	21.2	22.5	23.7	24.7	34.7	35.8	37.9	23 22.64	0.05	53.19	0 22 29.50	11.71
	(* 127) W.	17	23.0	25.2	26.4	36.0	37.0	38.1	39.3	40.4	50.0	51.1	53.2	29 38.15	0.05	53.19	0 28 45.01	11.75
	Weisse 571	18	42.9	44.8	46.0	55.6	56.6	57.7	59.0	0.0	9.9	10.9	13.3	34 57.88	0.05	53.19	0 34 4.74	11.77
	* — 2° 28′	19	40.4	42.4	43.7	53.3	54.3	55.4	56.5	57.6	7.3	8.4	10.4	38 55.43	0.04	53.19	0 38 2.28	11.75
	Polaris	20	23.0	16.0	5.0	57.0	27.0	. .	. .	. .	. .	. .	. .	49 13.60	22 37.12	53.19		. .
	Weisse 956	21	47.6	49.5	51.0	0.4	1.4	2.6	3.7	4.9	14.5	15.6	17.7	56 2.63	0.05	53.19	0 55 9.49	11.91
	e Piscium	22	38.2	40.1	41.4	50.8	51.8	53.1	54.3	55.4	5.2	6.4	8.5	56 53.20	0.05	53.19	0 56 0.06	11.85
Tr. 2	γ Aquilæ	23	31.8	33.8	35.1	44.8	45.8	47.0	48.2	49.2	58.9	0.2	2.2	40 47.00	0.07	53.29	19 39 53.78	10.95
	α Aquilæ	24	53.3	55.2	56.5	6.0	7.0	8.2	9.4	10.5	20.2	21.4	23.5	45 8.29	0.07	53.29	19 44 15.07	11.26
	β Aquilæ	25	22.5	24.3	25.7	35.3	36.2	37.5	38.6	39.7	49.4	50.6	52.7	49 37.50	0.07	53.29	19 48 44.28	+ 11.34
	λ Ursæ Minoris	26	. .	. .	. .	13.0	8.0	12.0	11.0	8.0	. .	. .	. .	0 10.40	9.26	53.29		— 309.54
	ρ^1 Capricorni	27	50.7	52.8	54.1	4.1	5.1	6.3	7.7	8.8	18.9	20.2	22.4	22 6.47	+ 0.04	53.29	20 21 13.22	+ 13.32
	O. Arg. S. 20537	†28	. .	38.5	39.9	41.0	43.6	. .	46.7	49.1	50.5	51.9	. .	22 15.15	— 0.19	53.29	20 21 21.67	13.34
	e Delphini	29	27.3	29.2	30.6	40.2	41.3	42.5	43.7	44.7	54.6	55.8	57.8	27 42.52	+ 0.07	53.29	20 26 49.30	10.82
	Moon I	†30	36.5	38.0	39.3	40.6	43.1	. .	. .	. .	. .	. .	. .	3 39.50	35.23	53.29	20 3 21.44	. .
	e Aquarii	31	3.8	5.8	7.1	16.6	17.7	18.8	20.1	21.2	31.0	32.1	34.2	41 18.95	0.05	53.29	20 40 25.71	12.53
	μ Aquarii	32	4.0	5.9	7.2	16.9	17.9	19.1	20.3	21.3	31.1	32.3	34.4	46 19.13	0.05	53.29	20 45 25.89	+ 12.47
Y. 5	Sun II	33	24.2	26.1	27.5	37.0	38.0	39.3	40.4	41.5	51.3	52.4	54.4	59 39.28	0.11	53.48	10 58 45.91	— 64.20
	Polaris, S P.	34	. .	. .	. .	35.0	54.0	5.0	14.0	34.0	0.0	13.0	53.0	8 41.00	3 12.54	53.47	1 11 0.47	+ 20.05
	α Virginis	35	44.9	47.0	48.2	57.9	58.9	0.1	1.3	2.3	12.2	13.5	15.4	19 0.15	0.08	53.47	13 18 . .	14.06
	α Bootis	36	8.9	11.1	12.4	22.4	23.5	24.9	26.1	27.2	37.5	38.7	41.0	10 24.88	0.15	53.47	14 9 31.56	12.40
	g^2 Aquarii	37	59.1	0.1	2.5	12.6	13.7	15.0	16.2	17.3	27.7	28.9	31.0	41 14.92	0.06	53.45	22 40 21.53	12.37
	λ Aquarii	38	16.2	18.3	19.5	29.1	30.1	31.2	32.5	33.5	43.3	44.5	46.6	46 31.35	0.08	53.44	22 45 37.99	11.86
	Lalande 45028	39	31.7	33.6	34.8	44.4	45.4	46.5	47.7	48.7	58.5	59.6	1.7	55 46.60	0.09	53.44	22 54 53.25	11.73
	Weisse 1223	40	11.3	13.3	14.6	24.0	25.0	26.1	27.5	28.5	38.2	39.3	41.4	59 26.29	0.09	53.44	22 58 32.94	11.74
	Weisse 1248	41	24.4	26.4	27.7	37.2	38.2	39.3	40.5	41.5	51.3	52.4	54.4	0 39.39	0.09	53.44	22 59 46.04	11.73
	* — 20° 27′	42	39.4	41.4	42.8	53.0	54.1	55.2	56.5	57.6	7.9	9.1	11.4	7 55.31	0.06	53.44	23 7 1.93	12.16
	Juno	43	34.7	36.6	37.8	47.3	48.4	49.5	50.7	51.8	. .	. .	. .	10 44.60	5.08	53.44	23 9 56.24	. .
	κ Piscium	44	42.8	44.8	46.0	55.6	56.6	57.8	58.9	0.0	9.7	10.8	12.8	20 57.80	+ 0.10	53.44	23 20 4.46	11.58
	B. A. C. 8184	45	. .	. .	. .	42.2	43.4	45.4	0.7	3.1	4.2	5.5	7.0	23 56.44	— 26.03	53.44	13 22 36.97	11.71
	Moon I	46	4.5	6.5	7.8	17.5	18.5	19.7	21.0	22.1	32.0	33.2	35.3	29 19.83	+ 0.10	53.44	23 28 26.49	. .
	Moon II	47	22.5	24.5	25.7	35.6	36.6	37.7	38.9	40.2	50.0	51.2	53.3	31 37.84	0.10	53.44	23 30 44.50	. .
	19 Piscium	48	11.7	13.8	15.1	24.5	25.5	26.7	27.9	28.9	38.7	39.8	41.8	40 26.76	0.11	53.44	23 39 33.43	11.55
	Weisse 848	49	31.4	33.3	34.5	44.0	45.1	46.4	47.6	48.6	58.2	59.4	1.4	42 46.35	+ 0.09	−53.44	23 41 53.00	+ 11.68

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
h.	s.	s.	s.
Sept. 2, 20.1	— 53.29	— 0.003	+ 0.06
5, 21.1	— 53.45	+ 0.003	+ 0.10

28. Through clouds.
30. Through clouds.

September 2, n. = + 0.07 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 5	* + 0° 28′ . . .	1	40.5	42.5	43.7	53.4	54.3	55.5	56.6	57.7	7.4	8.5	10.5	49 55.51	+ 0.10	—53.44	23 49 2.17	+ 11.60
Y.	ω Piscium	2	5.0	6.9	8.4	17.8	18.8	20.0	21.2	22.2	32.0	33.0	35.2	53 20.05	0.11	53.44	23 52 26.72	11.57
	Weisse 1186 . .	3	56.9	58.9	0.1	9.6	10.7	11.9	13.0	14.1	23.8	25.0	26.9	59 11.90	0.10	53.44	23 58 18.56	11.61
	O. Arg. N. 26423 .	4	. .	. .	. .	58.6	0.5	2.7	4.3	6.1	. .	. .	. .	2 2.44	0.43	53.44	0 1 9.43	10.15
	* + 53° 1′ . . .	5	15.8	19.2	21.2	36.7	38.7	40.5	42.7	44.4	0.2	2.3	5.7	2 40.67	0.35	53.44	0 1 47.58	10.18
	Weisse 90 . . .	6	52.2	54.1	55.4	4.8	5.7	7.0	8.1	9.2	19.0	20.1	22.1	7 7.06	0.11	53.44	0 6 13.73	11.62
	Lacaille 34 . . .	7	10.0	12.5	14.1	25.9	27.2	28.8	30.0	31.5	43.7	45.2	47.7	12 28.78	+ 0.03	53.44	0 11 35.37	11.54
	* — 33° 31′ . . .	8	. .	. .	. .	40.5	41.8	44.5	2.5	5.5	7.0	8.5	10.0	14 57.41	— 31.16	53.44	0 13 32.81	11.55
	Lacaille 55 . . .	9	. .	. .	. .	12.3	13.5	15.9	32.4	34.9	36.3	37.8	39.1	16 27.78	— 28.35	53.44	0 15 5.99	11.62
	Weisse 302 . . .	10	26.4	28.4	29.7	39.3	40.2	41.4	42.5	43.6	53.5	54.7	56.8	19 41.50	+ 0.12	53.44	0 18 48.18	11.64
	Weisse 375 . . .	11	15.1	17.2	18.4	28.0	29.0	30.2	31.4	32.5	42.2	43.4	45.5	24 30.26	0.12	53.44	0 23 36.94	11.66
	Weisse 453 . . .	12	2.8	4.8	6.1	15.7	16.7	18.0	19.0	20.1	29.8	30.9	33.0	28 17.90	0.12	53.44	0 27 24.58	11.69
	Weisse 406 . . .	13	5.6	7.6	8.9	18.4	19.4	20.6	21.8	22.8	32.5	33.7	35.7	31 20.82	0.11	53.44	0 30 27.49	11.70
	Weisse 571 . . .	14	43.0	45.0	46.2	55.8	56.8	58.0	59.1	0.2	10.0	11.0	13.2	34 58.03	0.11	53.44	0 34 4.70	11.71
	* + 2° 28′ . . .	15	40.6	42.5	43.9	53.4	54.3	55.6	56.8	57.8	7.5	8.6	10.6	38 55.60	0.11	53.44	0 38 2.27	11.72
	Neptune	16	21.8	23.7	25.0	34.5	35.5	36.7	37.9	38.9	48.5	49.7	51.7	39 36.72	0.11	53 44	0 38 43.39	. .
	Rumker N. F. 329 .	17	33.9	35.9	37.2	46.8	47.8	49.1	50.3	51.3	1.1	2.2	4.4	43 49.09	+ 0.12	53.44	0 42 55.77	11.79
	Rumker N. F. 354 .	18	. .	. .	. .	14.5	15.7	17.7	33.2	35.5	36.9	38.2	39.5	46 28.90	— 26.28	53.44	0 45 9.18	11.80
	O. Arg. S. 542 . .	19	23.8	26.2	27.6	38.3	39.3	40.8	42.1	43.3	54.1	55.4	57.7	52 40.78	+ 0.05	53.44	0 51 47.39	11.22
	ε Piscium	20	38.4	40.3	41.6	51.1	52.1	53.3	54.5	55.6	5.3	6.4	8.5	56 53.37	0.12	53.44	0 56 0.05	11.82
	Weisse 1041 . .	21	13.1	15.1	16.4	25.9	26.8	28.0	29.2	30.2	39.8	40.9	43.1	0 28.05	+ 0.10	53.44	0 59 34.71	11.74
	Weisse 1054 . .	22	. .	. .	. .	19.5	20.7	22.7	37.9	40.4	41.5	42.8	44.1	1 33.70	— 25.92	53.44	1 0 14.34	11.74
	Weisse 20 . . .	23	. .	. .	. .	. .	. .	. .	43.7	46.1	47.3	48.6	49.9	4 47.12	— 33.56	53.44	1 3 20.12	11.81
	* + 2° 12′ . . .	24	47.8	49.7	51.1	. .	. .	. .	. .	. .	14.8	15.8	17.8	7 2.83	+ 0.07	53.44	1 6 9.46	11.82
	Polaris	25	. .	. .	. .	. .	54.0	41.5	31.0	14.0	46.0	36.0	55.0	15 48.21	— 3 54.30	53.44	1 11 0.47	19.83
	θ Ceti	26	58.2	0.1	1.5	11.0	12.1	13.3	14.5	15.6	25.4	26.5	28.5	18 13.34	+ 0.08	53.44	1 17 19.98	+ 11.57
Tr.	Venus II . . .	27	48.8	50.8	52.3	2.1	3.4	4.5	5.6	7.0	17.0	18.3	20.5	26 4.57	0.14	53.46	8 25 11.25	— 0.55
	α Hydræ	28	49.5	50.6	51.7	52.9	54.2	. .	22.5	25.0	26.2	27.5	28.8	22 8.89	16.84	53.49		+ 13.42
6	Sun I	29	52.3	54.4	55.6	4.9	6.0	7.2	8.4	9.6	19.2	20.3	22.2	1 7.28	0.13	53.53	11 0 13.88	. .
	Sun II	30	0.8	2.8	4.1	13.7	14.7	15.9	16.9	18.0	27.8	29.0	31.0	3 15.88	+ 0.13	53.53	11 2 22.48	. .
	Polaris, S. P. . .	31	. .	. .	. .	34.0	52.0	4.0	16.0	32.0	. .	. .	. .	12 3.60	— 8.38	53.58	1 11 1.64	19.58
	α Bootis	32	9.1	10.2	12.7	22.6	. .	25.1	26.2	27.3	37.7	38.9	41.0	10 25.08	+ 0.01	53.61	14 9 31.48	12.42
	Juno	33	52.6	54.4	55.7	5.1	6.0	7.3	8.5	9.5	19.1	20.4	22.5	10 7.37	0.12	53.83	23 9 13.66	. .
	B. A. C. 8134 . .	34	6.6	8.4	9.7	19.2	20.1	21.4	22.5	23.7	33.4	34.6	36.6	15 21.47	0.12	53.83	23 14 27.76	11.72
	θ Piscium	35	49.8	51.7	52.9	2.4	3.4	4.7	5.9	7.0	16.7	17.9	19.9	22 4.75	+ 0.13	53.84	23 21 11.04	11.37
	14 Piscium	36	55.1	57.0	58.3	. .	8.8	10.2	11.3	12.4	21.9	22.9	25.2	28 10.31	— 0.10	53.84	23 27 16.37	11.62
	ι Piscium	37	43.1	45.1	46.3	55.8	56.8	58.0	59.2	0.2	10.0	11.1	13.1	33 58.06	+ 0.12	53.84	23 33 4.34	11.57
	19 Piscium	38	12.1	14.1	15.4	25.0	25.8	27.1	28.2	29.4	39.0	40.1	42.2	40 27.13	0.12	53.84	23 39 33.41	11.54
	γ Pegasi	39	59.3	1.6	2.9	12.5	13.6	14.8	16.0	17.2	27.1	28.3	30.4	7 14.88	0.13	53.86	0 6 21.15	11.47
	Moon II . . .	40	44.6	46.6	47.9	57.6	58.6	59.8	1.1	2.2	12.0	13.4	15.5	30 59.94	0.12	53.86	0 30 6.20	. .
	* + 2° 28′ . . .	41	20.1	21.5	22.7	23.8	26.2	. .	53.8	55.0	56.1	57.2	58.4	38 39.48	16.76	53.87	0 38 2.37	11.71
	Neptune	42	16.9	18.9	20.2	29.6	30.6	31.8	33.1	34.2	43.7	45.0	47.0	39 31.91	0.12	53.87	0 38 38.16	. .
	δ Piscium	43	23.2	25.3	26.6	36.1	37.2	38.4	39.5	40.5	50.3	51.5	53.5	42 38.37	0.13	53.87	0 41 44.63	11.75
	ε Piscium	44	38.6	40.6	41.9	51.6	52.6	54.0	55.1	56.2	5.8	7.0	9.1	56 53.86	0.13	53.88	0 56 0.11	11.80
	Polaris	45	26.0	20.0	6.0	0.0	32.0	42.0	2.0	55.0	. .	. .	. .	54 22.88	+17 32.69	53.88	1 11 1.69	19.34
Y. 7	Polaris, S. P. . .	46	26.0	31.0	42.0	53.5	18.5	. .	. .	. .	. .	14.5	51.0	25 25.21	—13 28.90	54.19	1 11 2.12	+ 19.07
E. 11	λ Ursæ Minoris . .	47	. .	. .	. .	25.0	19.0	18.0	23.0	17.0	. .	. .	. .	0 20.40	6.65	54.93	19 59 18.82	— 301.06
	* — 24° 16′ . . .	48	. .	. .	. .	5.5	6.8	8.0	9.3	10.4	20.9	22.3	24.4	9 13.45	— 5.68	—54.93	20 8 12.84	+ 14.10

September 6–7. P. S. P., P., and P. S. P., n. = + 0.04.

September 8, 10h. Image east 0.21. Clamp east.
Image west 0.36. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Sept. 6, 19.9	— 53.75	— 0.025	+ 0.12
11, 0.6	— 55.01	— 0.018	— 0.16

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 11 E.	* — 24° 20′	1	..	..	..	47.1	48.3	49.4	50.8	52.0	2.0	3.8	5.8	10 54.90	— 5.68	—54.93	20 9 54.29	+ 14.09
	π Capricorni	2	18.5	20.8	21.9	32.0	33.2	34.5	35.7	36.8	46.7	48.2	50.2	20 34.41	0.19	54.93		13.45
	Weisse 95	3	38.5	39.7	40.8	41.9	43.0	..	10.8	12.8	14.1	15.4	16.7	7 57.37	16.84	54.98	23 6 45.55	11.66
	* + 54° 19′	4	11.6	14.9	17.0	33.0	34.8	36.8	38.8	40.4	56.2	58.5	1.8	21 36.71	0.16	54.99	23 20 41.56	8.58
	ι Piscium	5	44.5	46.5	47.7	57.4	58.4	59.5	0.7	1.8	11.3	12.5	14.5	33 59.53	0.15	54.99	23 33 4.39	11.53
	Lalande 46609	6	26.8	28.8	30.0	39.6	40.7	41.9	43.1	44.2	53.5	54.7	56.9	41 41.84	0.17	54.99	23 40 46.68	11.63
	21 Piscium	7	16.7	18.7	20.0	29.6	30.6	31.8	33.0	34.1	43.4	44.7	46.7	43 31.75	0.16	54.99	23 42 36.60	11.54
	O. Arg. S. 23120	8	..	25.8	27.1	37.7	38.9	40.2	41.4	42.6	52.9	54.2	..	48 40.09	0.22	55.00	23 47 44.87	11.80
	O. Arg. S. 23126	9	32.9	35.0	36.3	46.8	47.9	49.3	50.7	51.8	1.1	3.4	5.5	49 49.15	0.21	55.00	23 48 53.94	11.79
	ω Piscium	10	6.7	8.7	9.9	19.7	20.8	22.0	23.2	24.2	33.7	34.8	36.8	53 21.86	0.15	55.00	23 52 26.71	11.52
	Weisse 1099	11	..	..	..	1.8	2.9	4.2	5.4	6.4	15.8	17.0	18.9	55 9.05	5.18	55.00	23 54 8.87	11.62
	Weisse 1186	12	18.9	21.0	22.1	31.9	32.9	34.1	35.3	36.4	45.7	46.8	48.9	58 34.00	0.16	55.00	23 57 38.84	11.54
	Weisse 1209	13	..	..	..	..	..	..	..	1.5	2.7	4.0	5.3	0 3.38	34.20	55.00	23 58 34.18	11.56
	Weisse 51	14	54.1	56.1	57.4	7.1	8.2	9.3	10.5	11.6	21.1	22.4	24.4	5 9.29	0.16	55.00	0 4 14.13	11.54
	Lalande 205	15	45.7	47.6	48.8	58.6	59.6	0.7	2.0	3.0	12.5	13.8	15.7	10 0.73	— 0.16	55.00	0 9 5.57	11.55
	Weisse 247	†16	47.1	49.2	50.3	0.0	1.1	2.4	3.4	4.5	..	..	..	15 57.25	+ 4.84	55.00	0 15 7.09	11.56
	Weisse 302	17	28.3	30.3	31.6	41.3	42.3	43.5	44.5	45.6	55.4	56.5	58.4	19 43.43	— 0.15	55.00	0 18 48.28	11.57
	Weisse 358	18	9.5	11.6	12.7	22.6	23.8	24.8	26.1	27.1	..	..	..	23 19.77	+ 4.85	55.01	0 22 29.61	11.58
	Weisse 375	19	..	..	..	44.0	45.3	47.4	2.2	4.7	6.1	7.2	8.6	24 58.19	— 26.09	55.01	0 23 37.09	11.59
	B. A. C. 161	20	17.4	19.5	20.6	30.3	31.5	32.5	33.7	34.8	44.1	45.4	47.3	31 32.46	0.16	55.01	0 30 37.29	11.62
	Lalande 1097	21	22.9	24.9	26.0	35.7	36.9	38.0	39.1	40.2	49.5	50.8	52.9	35 37.90	0.16	55.01	0 34 42.73	11.62
	* + 0° 56′	22	..	..	..	55.0	56.1	57.2	58.5	59.6	9.0	10.2	12.0	36 2.20	5.15	55.01	0 35 2.04	11.62
	* + 2° 28′	†23	42.7	44.7	46.0	55.4	56.5	57.6	58.9	59.9	..	..	..	38 52.71	5.15	55.01	0 38 2.50	11.64
	Neptune	†24	50.7	52.8	54.2	..	..	..	..	..	17.6	18.8	20.8	39 5.82	0.12	55.01	0 38 10.69	
	Weisse 845	25	53.7	55.8	56.9	6.5	7.6	8.7	10.0	11.0	20.5	21.8	23.7	50 8.75	0.15	55.01	0 49 13.59	11.69
	Weisse 928	26	35.9	38.0	39.2	48.8	49.9	50.9	52.2	53.1	2.7	4.0	5.9	54 50.96	0.16	55.01	0 53 55.79	11.71
	ε Piscium	27	40.1	42.1	43.3	53.1	54.1	55.3	56.5	57.4	7.1	8.4	10.3	56 55.25	0.15	55.01	0 56 0.09	11.73
	Weisse 1031	28	55.0	57.0	58.1	8.0	9.0	10.0	11.3	12.3	21.7	23.0	25.0	0 10.04	0.16	55.02	0 59 14.86	11.70
	* + 2° 15′	29	47.1	49.4	..	..	..	..	..	..	..	15.4	16.9	4 2.20	0.13	55.02	1 3 7.05	11.72
	Weisse 20	30	0.7	2.5	3.7	..	..	..	..	..	27.0	28.4	30.1	4 15.35	0.12	55.02	1 3 20.21	11.72
	Polaris	31	..	..	..	32.0	15.0	2.0	51.0	32.0	..	..	..	12 2.40	5.13	55.02	1 11 2.25	16.50
	θ Ceti	32	59.9	2.1	3.2	13.0	14.1	15.3	16.5	17.5	27.1	28.3	30.4	18 15.22	0.17	55.02	1 17 20.03	11.47
	Weisse 328	33	2.0	4.1	5.3	15.0	16.1	17.2	18.5	19.5	28.8	30.1	32.1	21 17.15	0.15	55.02	1 20 21.98	11.87
	Weisse 689	34	19.3	21.3	22.4	32.1	33.2	34.5	35.6	36.5	46.1	47.2	49.2	24 34.31	0.16	55.02	1 23 39.13	11.75
	Weisse 463	35	33.2	..	36.6	46.4	47.5	48.7	50.1	51.0	0.9	..	4.2	28 48.73	0.14	55.03	1 27 53.56	12.12
	119 Tauri	36	0.2	2.5	3.7	13.9	14.9	16.2	17.5	18.6	28.6	29.9	31.8	25 16.16	0.14	55.10	5 24 20.92	14.66
	Moon II	37	5.5	7.6	8.8	19.3	20.4	21.7	23.0	24.1	34.5	35.8	37.9	32 21.69	0.14	55.10	5 31 26.45	
	α Orionis	38	34.5	36.6	37.8	47.5	48.6	49.7	50.9	52.0	1.4	2.7	4.8	48 49.68	0.15	55.10	5 47	+ 13.69
Tr.	Venus II	39	36.3	38.4	39.7	49.6	50.9	52.2	53.4	54.5	4.4	5.8	7.8	54 52.09	0.14	55.12	8 53 56.83	— 0.52
	α Hydræ	40	51.7	52.8	54.0	55.2	56.3	..	24.2	26.4	27.6	28.9	30.3	22 10.74	16.95	55.13	9 20 58.66	+ 13.33
	α Leonis	41	52.2	54.0	55.2	5.2	6.3	7.5	8.7	9.8	19.5	20.7	22.8	2 7.45	0.15	55.15	10 1 12.15	14.65
12	Sun I	42	42.3	43.4	44.5	45.7	46.8	..	14.4	16.9	18.1	19.3	20.7	23 1.21	16.86	55.18	11 21 49.17	
	Sun II	43	37.6	39.5	40.8	50.4	51.5	52.7	53.8	54.9	4.4	5.8	7.7	24 52.65	— 0.16	55.18	11 23 57.31	
	Polaris, S. P.	†44	..	..	..	24.0	43.0	51.0	6.0	25.0	58.0	7.0	51.0	8 33.12	+ 3 26.04	55.23	1 11 3.93	16.25
	α Virginis	45	46.9	48.9	50.0	59.9	1.0	2.2	3.4	4.5	13.9	15.3	17.4	19 2.13	— 0.18	55.23	13 18 6.72	+ 14.11
	λ Ursæ Minoris	46	..	..	..	39.0	49.0	30.0	36.0	41.0	44.0	51.0	2.0	22 59.00	22 41.35	55.40	19 59 22.25	— 299.98
	Weisse 1125	47	23.8	25.9	27.1	36.8	37.9	39.0	40.3	41.3	50.8	52.2	54.2	45 39.03	0.18	55.42	20 44 43.43	+ 12.55
	μ Aquarii	48	6.3	8.3	9.5	19.3	20.3	21.5	22.7	23.7	33.3	34.6	36.6	46 21.46	— 0.18	55.42	20 45 25.86	12.55
	* — 19° 38′	49	44.8	46.8	48.2	58.4	59.5	0.8	2.0	3.1	..	..	..	51 55.45	+ 5.06	55.42	20 51 5.09	13.31
	* — 19° 39′	50	..	..	..	14.9	16.1	17.3	18.5	19.5	29.7	31.1	32.9	52 22.50	— 5.49	—55.42	20 51 21.59	+ 13.31

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 12, 16.0	— 55.30	— 0.025	— 0.16

16. Through clouds.
23. Through clouds.
24. Through clouds.
44. Tremulous.

September 11–12. P., P. S. P., and P., n. = + 0.08.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 12	* — 19° 40′	1	. .	. .	. .	44.8	46.9	47.2	9.2	11.6	12.8	14.1	15.5	53 2.76	— 27.49	—55.42	20 51 39.85	+ 13.31
Tr.	O. Arg. S. 21053	2	48.0	50.2	51.4	1.7	2.8	4.1	5.4	6.4	16.5	17.9	20.0	56 4.04	— 0.20	55.42	20 55 8.42	13.28
	O. Arg. S. 21154	3	36.0	38.3	39.4	50.0	51.1	52.5	53.7	54.8	. .	. .	. .	2 46.97	+ 5.18	55.43	21 1 56.72	13.49
	O. Arg. S. 21162	4	. .	. .	. .	9.5	10.5	11.7	13.0	14.2	24.4	25.7	28.0	3 17.13	— 5.63	55.43	21 2 16.07	13.48
	O. Arg. S. 21176	5	. .	. .	. .	40.6	41.8	43.1	44.5	45.5	55.8	57.2	59.3	3 48.47	5.62	55.43	21 2 47.42	13.47
	ζ Cygni	6	53.3	55.7	57.1	8.1	9.3	10.7	12.2	13.3	23.9	25.5	27.7	8 10.62	0.14	55.43	21 7 15.05	9.17
	* — 22° 5′	7	35.3	37.5	38.7	49.1	50.2	51.4	52.7	53.9	4.1	5.5	7.7	10 51.46	0.21	55.43	21 9 55.82	13.33
	* — 23° 17′	8	15.2	17.3	18.7	29.2	30.3	31.6	33.1	34.1	44.3	45.6	47.8	15 31.56	0.21	55.43	21 14 35.92	13.37
	B. A. C. 7413	9	58.9	1.2	2.4	13.0	14.1	15.4	16.6	17.7	28.1	29.5	31.6	16 15.32	0.21	55.43	21 15 19.68	13.37
	ζ Capricorni	10	40.4	42.5	43.9	54.4	55.5	56.8	58.2	59.4	9.6	10.9	13.1	19 56.79	0.21	55.43	21 19 1.15	13.31
	* — 19° 55′	11	. .	. .	. .	. .	. .	. .	8.8	11.4	12.6	13.9	15.3	21 12.40	35.50	55.43	21 19 41.47	13.08
	O. Arg. S. 21442	12	34.0	36.1	37.4	47.6	48.7	50.0	51.3	52.4	2.3	3.7	5.7	24 49.93	0.20	55.43	21 23 54.30	13.04
	ε Capricorni	13	14.5	16.6	18.0	28.2	29.3	30.6	31.8	33.0	42.9	44.4	46.5	30 30.53	0.20	55.44	21 29 34.89	13.00
	O. Arg. S. 21569	14	56.0	58.2	59.5	9.8	10.9	12.2	13.4	14.5	24.6	25.9	28.1	35 12.10	0.20	55.44	21 34 16.46	12.97
	* — 20° 14′	15	23.6	25.7	27.1	37.3	38.4	39.6	41.0	42.1	52.1	53.4	55.5	36 39.62	0.20	55.44	21 35 43.98	12.95
	ε Pegasi	16	17.4	19.5	20.6	30.3	31.4	32.6	33.8	34.9	44.4	45.8	47.8	38 32.59	0.15	55.44	21 37 37.00	11.05
	Weisse 988	17	51.3	53.4	54.6	4.6	5.5	6.8	8.1	9.1	18.8	20.2	21.2	43 6.69	0.18	55.45	21 42 11.06	12.51
	* + 3° 4′	18	54.8	56.7	58.0	7.6	8.7	10.0	11.2	12.3	21.6	22.8	24.9	47 9.87	0.16	55.45	21 46 14.26	11.44
	* + 3° 5′	19	27.8	29.8	30.9	40.6	41.6	42.8	44.0	45.1	54.6	55.9	58.0	48 42.83	0.16	55.45	21 47 47.22	11.44
	O. Arg. S. 21770	20	. .	. .	. .	23.8	25.2	27.3	43.3	45.8	47.1	48.5	50.1	52 38.89	27.91	55.45	21 51 15.53	12.91
	O. Arg. S. 21903	21	54.4	56.7	58.0	8.7	9.9	11.2	12.4	13.6	24.0	25.6	27.7	1 11.11	0.14	55.45	22 0 15.52	13.03
	* — 40° 19′	22	. .	. .	. .	38.1	39.3	40.9	42.5	44.0	56.3	58.0	0.6	2 47.48	6.68	55.45	22 1 45.35	13.99
	* — 40° 13′	23	36.0	38.6	40.3	52.7	54.0	55.6	57.3	58.6	10.8	12.5	15.2	3 55.60	0.14	55.45	22 3 0.01	13.93
	θ Aquarii	24	26.7	28.8	30.0	39.8	40.8	42.0	43.2	44.3	53.8	55.0	57.0	10 41.95	0.17	55.46	22 10 46.32	12.05
	α Pegasi	25	46.3	48.4	49.7	59.6	0.6	1.8	3.0	4.2	14.0	15.3	17.3	59 1.84	— 0.14	55.46	22 58 6.24	10.99
	Juno	†26	34.5	36.5	37.7	. .	. .	. .	19.3	. .	. .	. .	. .	5 47.00	+ 2.34	55.46	23 4 53.88	. .
	γ Piscium	†27	. .	. .	. .	. .	. .	. .	39.5	41.6	42.9	44.1	45.5	11 42.72	— 33.39	55.46	23 10 13.87	11.64
	β Ceti	28	9.5	11.0	12.2	13.5	16.1	32.0	34.2	35.5	. .	. .	. .	37 20.50	+ 27.27	55.47	0 36 52.30	11.47
	* + 2° 28′	29	21.6	23.0	24.2	25.4	27.9	. .	28.0	30.2	31.4	32.7	34.0	38 57.84	+ 0.07	55.47	0 38 2.44	11.62
	Neptune	30	45.7	47.8	48.8	58.7	59.7	0.8	2.0	3.1	12.3	13.7	15.7	39 0.75	— 0.16	55.47	0 38 5.12	. .
	ε Piscium	31	40.5	42.6	43.7	53.5	54.6	55.8	57.0	58.0	7.5	8.8	10.7	56 55.70	— 0.15	55.48	0 56 0.07	11.71
	Polaris	32	22.0	12.0	6.0	54.0	34.0	49.0	14.0	3.0	. .	. .	. .	54 24.25	+17 36.10	55.48	1 11 4.87	16.01
	α Orionis	33	35.0	37.0	38.2	47.8	49.0	50.1	51.3	52.4	2.0	3.2	5.2	48 50.11	— 0.15	55.51	5 47 54.45	13.66
	μ Geminorum	34	29.6	31.8	33.1	43.6	44.8	46.0	47.3	48.5	58.7	0.0	2.2	15 45.96	0.14	55.51	6 14	15.45
E. 13	π Aquarii	35	7.7	9.7	11.0	20.6	21.6	22.8	23.9	24.9	34.5	35.6	37.7	19 22.73	0.16	55.86	22 18	11.53
	B. A. C. 7827	36	46.3	48.4	49.4	59.3	0.3	1.4	2.6	3.6	13.1	14.4	16.3	22 1.37	0.16	55.86	22 21 5.35	11.38
Tr.	α Leonis	37	53.0	55.0	56.2	6.1	7.2	8.3	9.6	10.7	20.5	21.7	23.7	2 8.36	0.15	55.98		14.62
14	Sun I	38	41.5	43.5	44.7	54.5	55.4	56.6	57.9	59.0	8.3	9.7	11.7	29 56.62	0.16	56.01	11 29 0.45	. .
	Sun II	39	49.6	51.5	52.7	2.5	3.6	4.7	6.0	7.0	6.5	7.7	9.7	32 4.68	— 0.16	56.01	11 31 8.51	. .
	Polaris, S. P.	40	. .	. .	. .	26.0	44.0	57.0	6.0	28.0	. .	. .	. .	11 56.20	+ 2.61	56.05	1 11 2.76	15.39
	η Bootis	41	34.4	35.7	37.0	38.3	40.8	. .	44.4	46.7	48.0	49.3	50.8	49 12.54	+ 0.09	56.06	13 48 16.57	13.12
	* — 23° 52′	42	34.6	36.8	38.1	48.7	49.8	51.2	52.5	53.5	4.0	5.3	7.5	3 51.10	— 0.20	56.22	21 2 54.68	13.56
	Weisse (2) 137	43	55.3	57.4	58.5	8.8	10.1	11.3	12.4	13.6	23.6	25.0	27.1	8 11.19	— 0.15	56.22	21 7 14.82	10.18
	Weisse (2) 310	44	37.3	39.5	40.6	50.8	52.0	53.3	54.5	55.5	. .	. .	. .	14 47.94	+ 5.12	56.22	21 13 56.84	10.25
	Weisse (2) 325	45	8.4	10.5	11.9	22.1	23.2	24.3	25.6	26.6	36.6	38.1	40.1	15 24.31	— 0.15	56.22	21 14 27.94	10.24
	1 Pegasi	46	34.6	36.7	38.1	48.5	49.6	50.9	52.1	53.3	3.0	4.3	6.5	16 50.69	0.15	56.22	21 15 54.32	10.28
	* — 19° 55′	47	22.0	. .	25.5	35.5	36.8	38.0	39.3	40.3	50.5	. .	53.8	20 37.97	0.19	56.22	21 19 41.56	13.09
	* — 23° 40′	48	15.6	17.8	19.2	29.7	30.8	32.1	33.5	34.6	44.8	46.2	48.5	25 32.07	0.20	56.22	21 24 35.65	13.31
	O. Arg. S. 21480	49	54.1	56.1	57.4	7.3	8.4	9.6	10.8	11.9	21.6	22.9	25.0	28 9.55	— 0.18	—56.22	21 27 13.15	+ 12.73

26. Cloudy.
27. Cloudy.

September 13–14. P. S. P. and P., n. = +0.05 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Sept. 12.	1.4	— 55.48	— 0.007	— 0.16
13,	22.3	— 55.86		

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 14	* — 15° 14′	1	34.0	36.6	37.2	47.2	48.4	49.5	50.8	51.8	1.7	3.0	5.1	28 49.52	— 0.18	—56.22	21 27 53.12	+ 12.70
Tr.	Weisse 739	2	37.8	39.8	41.1	51.1	52.2	53.4	54.6	55.6	5.4	6.8	8.8	32 53.33	— 0.18	56.22	21 31 56.93	12.63
	Weisse 896	3	50.7	52.0	53.3	54.4	56.9	. .	58.0	0.1	1.3	2.6	3.9	38 27.32	+ 0.08	56.22	21 37 31.18	11.05
	ε Pegasi	4	18.2	20.2	21.5	31.2	32.3	33.5	34.7	35.7	45.3	46.6	48.7	38 33.45	— 0.15	56.23	21 37 37.07	11.06
	Weisse 1002	5	. .	. .	. .	46.7	47.7	49.0	50.2	51.3	0.9	2.1	4.1	43 54.00	5.27	56.23	21 42 52.50	12.49
	Weisse 1087	6	46.3	48.5	49.7	59.5	0.7	1.8	3.0	4.1	13.6	15.0	17.0	48 1.75	0.17	56.23	21 47 5.35	12.36
	O. Arg. S. 21770	7	55.9	58.2	59.4	9.7	10.7	12.1	13.4	14.5	24.7	26.1	28.2	52 12.08	— 0.19	56.23	21 51 15.66	12.91
	O. Arg. S. 21836	8	33.0	34.5	35.7	37.2	39.7	. .	46.5	49.6	50.2	51.6	53.1	57 13.03	+ 0.05	56.23	21 56 16.85	13.08
	O. Arg. S. 21837	9	57.3	59.5	0.8	11.5	12.6	14.0	15.4	16.3	26.8	28.2	30.5	57 13.90	— 0.20	56.23	21 56 17.47	13.08
	O. Arg. S. 21903	10	55.4	57.6	58.9	9.5	10.7	11.9	13.3	14.4	25.0	26.5	28.5	1 11.97	0.20	56.24	22 0 15.53	13.03
	Weisse 113	11	42.3	14.4	45.5	55.2	56.2	57.4	58.7	59.6	9.1	10.3	12.3	7 57.36	0.16	56.24	22 7 0.96	11.55
	θ Aquarii	12	27.6	29.6	30.8	40.4	41.6	42.8	44.0	45.0	54.6	55.8	57.8	10 42.73	— 0.17	56.24	22 9 46.32	12.06
	α Pegasi	13	47.1	49.2	50.5	0.3	1.4	2.6	4.0	5.0	. .	. .	. .	58 57.51	+ 4.97	56.26	22 58 6.22	10.98
	Juno	14	8.7	10.7	11.9	21.7	22.7	23.9	25.1	26.1	35.5	36.8	38.8	4 23.81	— 0.17	56.26	23 3 27.38	. .
	* — 20° 27′	15	42.4	44.7	45.9	56.1	57.3	58.5	59.9	1.0	10.8	12.4	14.4	7 58.49	0.19	56.26	23 7 2.04	12.12
	γ Piscium	16	55.4	57.3	58.5	8.2	9.3	10.5	11.7	12.8	22.0	23.4	25.4	11 10.41	0.16	56.26	23 10 13.99	11.64
	γ Pegasi	17	. .	. .	. .	15.2	16.5	17.8	19.0	19.9	29.7	30.9	32.8	7 22.73	5.30	56.28	0 6 21.15	11.39
	* + 6° 57′	18	40.6	42.6	43.9	. .	. .	. .	. .	. .	7.4	8.8	10.9	18 55.70	0.12	56.28	0 17 59.30	11.54
	Weisse 302	19	29.6	31.7	32.9	42.5	43.7	44.7	45.9	47.0	56.7	57.9	59.9	19 44.77	— 0.16	56.28	0 18 48.33	11.54
	Lalande 658	20	29.9	32.0	33.2	42.8	43.9	45.0	46.3	47.3	. .	. .	. .	23 40.05	+ 4.80	56.29	0 22 48.56	11.56
	12 Ceti	21	54.2	56.1	57.3	7.0	8.0	9.2	10.4	11.5	20.9	22.2	24.2	24 9.18	— 0.17	56.29	0 23 12.72	11.55
	Santini 30	22	. .	45.0	46.5	56.2	57.3	58.5	59.7	0.9	10.2	11.6	. .	27 58.43	0.17	56.29	0 27 1.97	11.57
	(* 127) W.	23	26.5	28.6	29.8	39.4	40.6	41.6	42.8	43.9	53.3	54.5	56.6	29 41.60	— 0.16	56.29	0 28 45.15	11.58
	Neptune	24	13.7	15.0	16.3	17.5	19.9	. .	20.0	22.3	23.4	24.7	26.1	38 49.89	+ 0.07	56.29	0 37 53.67	. .
	* + 2° 28′	25	43.8	45.7	47.0	56.7	57.7	58.9	0.1	1.3	10.8	11.9	13.9	38 58.89	— 0.36	56.29	0 38 2.44	11.60
	ε Piscium	26	41.5	43.4	44.7	54.6	55.8	56.8	58.0	59.0	8.4	9.8	11.7	56 56.70	— 0.15	56.30	0 56 0.25	11.68
	Polaris	27	18.0	9.0	6.0	57.0	35.0	. .	. .	. .	. .	. .	. .	49 13.00	+22 46.26	56.29	1 11 2.97	+ 15.21
E.	Venus II	28	56.2	58.3	59.6	9.6	10.7	11.9	13.2	14.2	24.2	25.4	27.6	9 11.90	— 0.17	56.31	9 8 15.42	— 0.51
	Mercury II	29	53.3	55.4	56.6	6.4	7.5	8.5	9.8	10.9	20.2	21.7	23.4	42 8.52	0.16	56.38	10 41 11.98	— 0.29
15	Sun I	30	17.1	19.2	20.4	30.0	31.2	32.4	33.6	34.6	43.9	45.2	47.3	33 32.26	0.16	56.43	11 32 35.67	. .
	Sun II	31	25.2	27.3	28.5	38.4	39.4	40.4	41.7	42.7	52.3	53.4	55.4	35 40.43	— 0.16	56.43	11 34 43.84	. .
	Polaris, S. P.	†32	. .	. .	. .	22.0	40.0	53.0	7.0	22.5	. .	. .	. .	11 52.90	+ 8.79	56.52	1 11 5.17	+ 15.04
α	Virginis	†33	48.1	50.1	51.4	1.4	2.4	3.4	4.7	5.6	15.3	16.6	18.7	19 3.43	— 0.16	56.52	13 18 6.75	14.13
α	Bootis	†34	49.3	50.8	52.2	53.4	56.1	12.3	14.4	15.6	. .	. .	. .	10 0.51	27.49	56.57	14 9 31.43	12.53
ε	Bootis	35	46.3	48.5	50.0	0.8	1.9	3.3	4.6	5.7	16.5	17.9	20.2	40 3.25	0.19	56.59	14 39 6.47	12.06
	O. Arg. S. 21162	36	56.9	59.0	0.3	10.7	11.9	13.2	14.5	15.7	26.0	27.3	29.2	3 13.15	0.17	56.91	21 2 16.07	13.51
	O. Arg. S. 21176	37	. .	. .	. .	42.1	43.3	44.5	46.0	47.0	57.3	58.6	0.9	3 49.96	5.59	56.91	21 2 47.46	13.50
	O. Arg. S. 21196	38	. .	. .	. .	. .	. .	. .	45.6	48.2	49.5	51.0	52.4	5 49.34	36.67	56.91	21 4 15.76	13.61
ζ	Cygni	39	54.6	57.2	58.4	9.5	10.7	12.1	13.5	14.7	25.6	26.9	29.4	8 12.06	0.19	56.92	21 7 14.95	9.21
	* — 23° 16′	40	16.9	18.9	20.2	30.9	32.0	33.2	34.5	35.6	45.7	47.2	49.3	15 33.13	0.17	56.92	21 14 36.04	13.39
	* — 23° 1′	41	9.8	12.3	13.6	24.1	25.4	26.6	28.0	29.1	39.1	40.2	42.7	19 26.44	0.17	56.93	21 18 29.34	13.34
ζ	Capricorni	42	. .	. .	. .	55.9	57.1	58.4	59.8	0.9	11.0	12.4	14.5	20 3.75	5.58	56.93	21 19 1.24	13.33
	* — 19° 55′	43	. .	. .	. .	36.5	37.6	39.0	40.1	41.1	51.2	52.5	54.5	20 44.06	5.47	56.93	21 19 41.66	13.10
	O. Arg. S. 21442	44	35.7	37.9	38.9	49.4	50.4	51.6	52.9	53.9	4.0	5.3	7.4	24 51.58	0.17	56.93	21 23 54.48	13.05
	* — 23° 40′	45	. .	. .	. .	45.6	47.0	49.1	5.4	7.8	9.0	10.4	12.0	26 0.79	28.23	56.93	21 24 35.63	13.32
	B. A. C. 7490	46	0.8	3.0	4.3	14.6	15.7	17.0	18.3	19.5	29.5	30.8	33.0	28 16.95	0.17	56.94	21 27 19.84	13.08
ε	Capricorni	47	16.1	18.2	19.5	29.9	30.9	32.0	33.3	34.4	44.7	46.0	48.0	30 32.09	0.17	56.94	21 29 34.98	13.02
	O. Arg. S. 21550	48	9.0	11.4	12.6	22.7	23.9	25.1	26.4	27.5	37.5	38.9	41.1	33 25.10	0.17	56.94	21 32 27.99	13.04
	B. A. C. 7550	49	25.2	27.4	28.6	38.8	40.0	41.3	42.5	43.6	53.7	55.1	57.3	36 41.23	— 0.17	—56.94	21 35 44.12	+ 12.97

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 14, 20.8	— 56.21	— 0.021	— 0.16

32. Unsteady.
33. Tremulous.
34. Through clouds.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 15 E.	Weisse 933	1	10.8	12.8	14.0	24.0	25.1	26.2	27.4	28.5	38.2	39.4	41.4	40 26.16	— 0.16	—56.94	21 39 29.06	+ 12.43
	Weisse 1002	2	34.3	36.4	37.7	47.4	. .	49.5	50.9	51.9	1.4	2.9	4.8	43 49.72	0.28	56.95	21 42 52.49	12.41
	* — 7° 10′	13	. .	. .	. .	2.0	3.2	5.2	20.3	22.5	23.9	24.3	26.3	47 15.96	26.06	56.95	21 45 52.95	12.08
	Weisse 1106	4	31 1	33.3	34.5	44.5	45.4	46.6	48.0	49.0	58.6	0.0	2.0	48 46.64	0.16	56.95	21 47 49.53	12.40
	a Aquarii	5	36.8	38.8	40.0	49.6	50.7	51.8	53.1	54.1	3.6	4.8	6.6	59 51.81	0.16	56.96	21 58 54.69	11.66
	* — 40° 13′	6	37.3	39.7	41.6	54.4	55.6	. .	58.5	59.8	12.2	14.1	16.6	3 56.98	0.19	56.96	22 2 59.83	13.94
	Weisse 113	7	42.9	45.1	46.3	55.8	56.9	58.1	59.2	0.3	9.7	11.0	13.0	7 58.03	0.16	56.97	22 7 0.90	11.55
	Weisse 155	8	30.2	32.3	33.4	43.1	44.1	45.2	46.5	47.5	57.0	58.2	0.2	9 45.25	0.16	56.97	22 8 48.12	11.58
	Weisse 303	9	24.3	26.3	27.4	37.0	38.1	39.4	40.5	41.6	51.0	52.4	54.3	16 39.30	0.16	56.98	22 15 42.16	11.47
	Weisse 360	10	23.2	25.3	26.4	36.0	37.0	38.4	39.5	40.5	50.0	51.3	53.2	18 38.25	0.16	56.98	22 17 41.11	11.43
	* + 3° 6′	11	55.6	57.7	59.0	8.7	9.9	11.0	12.1	13.1	22.5	23.9	26.0	19 10.86	0.16	56.98	22 18 13.72	11.43
	Lacaille 9139	12	. .	. .	. .	. .	. .	. .	55.6	58.7	0.3	1.7	3.3	22 59.92	42.12	56.98	22 21 20.82	13.43
	O. Arg. S. 22237	13	6.8	9.0	10.3	20.3	21.7	23.0	24.2	25.4	35.5	36.7	38.8	28 22.88	0.17	56.99	22 27 25.72	12.48
	Weisse 602	14	16.8	19.1	20.4	30.2	31.4	32.5	33.7	34.8	44.3	45.7	47.8	30 32.43	0.16	56.99	22 29 35.28	12.06
	Weisse 619	15	52.5	54.7	55.9	5.6	6.7	8.0	9.2	10.2	19.9	21.1	23.0	31 7.89	0.16	56.99	22 30 10.74	12.05
	B. A. C. 7898	16	55.1	57.4	58.8	9.6	10.8	12.2	13.6	14.6	25.4	26.7	29.0	34 12.11	0.18	56.99	22 33 14.94	12.75
	O. Arg. S. 22373	17	48.0	50.2	51.4	2.5	3.5	4.7	6.0	7.2	18.0	19.2	21.4	38 4.74	0.18	56.99	22 37 7.57	12.66
	g^2 Aquarii	18	2.8	5.0	6.1	16.6	17.7	18.9	20.3	21.4	31.4	32.8	35.0	41 18.91	0.17	57.00	22 40 21.74	12.36
	λ Aquarii	19	20.0	22.1	23.3	33.1	34.1	35.3	36.5	37.5	47.1	48.4	50.3	46 35.25	0.16	57.00	22 45 38.09	11.84
	Lalande 45028	20	35.5	37.6	38.8	48.5	49.4	50.7	51.8	52.9	2.3	3.6	5.5	55 50.60	0.16	57.01	22 54 53.43	11.70
	* — 4° 32′	21	53.9	55.7	56.9	6.6	7.6	8.8	9.9	11.0	20.6	21.7	23.6	56 8.75	0.16	57.01	22 55 11.58	11.70
	Weisse 1223	22	15.2	17.4	18.6	28.0	29.1	30.2	31.5	32.6	42.1	43.4	45.8	59 30.31	0.16	57.01	22 58 33.14	11.70
	Weisse 1248	23	28.4	30.4	31.5	41.4	42.4	43.6	44.8	45.7	55.1	56.6	58.5	0 43.49	0.16	57.01	22 59 46.32	11.70
	Juno	24	26.6	28.6	29.9	39.4	40.6	41.8	43.0	44.0	53.6	54.9	56.7	3 41.74	0.16	57.02	23 2 44.56	. .
	* — 20° 27′	25	43.2	45.6	46.8	57.0	58.2	59.4	0.6	1.7	11.9	13.2	15.5	7 59.37	0.17	57.02	23 7 2.18	12.13
	Radcliffe 6067	26	19.6	23.3	25.3	41.9	43.7	45.6	47.8	49.6	5.8	7.8	11.3	19 45.61	0.29	57.03	23 18 48.29	8.51
	* + 54° 18′	27	24.0	27.3	29.1	45.5	47.4	49.6	51.6	53.3	9.4	12.0	15.4	20 49.51	0.29	57.03	23 19 52.19	8.53
	Radcliffe 6081	28	. .	. .	. .	15.5	18.1	21.3	16.5	50.4	52.6	54.5	56.9	22 39.47	44.11	57.03	23 20 58.33	8.61
	ι Piscium	29	46.5	48.5	49.8	59.6	0.6	1.6	2.8	3.9	13.3	14.6	16.7	34 1.63	0.16	57.04	23 33 4.43	11.51
	Neptune	30	30.0	32.0	33.4	42.9	44.0	45.0	46.4	47.5	56.8	58.0	0.0	38 45.09	0.16	57.10	0 37 47.83	. .
	* + 2° 28′	31	. .	. .	. .	11.3	12.6	14.5	29.5	31.9	33.0	34.3	35.6	39 25.38	25.88	57.10	0 38 2.40	11.59
	δ Piscium	32	. .	. .	. .	39.7	40.8	42.1	43.3	44.4	53.9	54.9	57.1	42 47.03	5.18	57.10	0 41 44.75	11.63
	Weisse 733	33	50.3	52.3	53.5	3.3	4.4	5.3	6.6	7.7	17.2	18.5	20.4	44 5.41	0.16	57.10	0 43 8.15	11.64
	Weisse 807	34	33.8	35.8	37.1	47.0	48.1	49.2	50.4	51.5	1.3	2.5	4.8	47 49.23	0.16	57.10	0 46 51.97	11.68
	ϵ Piscium	35	42.3	44.3	45.5	55.4	56.4	57.6	58.7	59.7	9.3	10.5	12.6	56 57.48	0.16	57.11	0 56 0.21	11.65
	Polaris	36	. .	. .	. .	42.0	25.0	9.0	59.0	40.0	. .	. .	. .	12 11.00	8.79	57.13	1 11 5.08	+ 14.88
Tr.	Venus II	37	42.6	44.6	46.0	. .	57.2	58.4	59.6	0.7	10.5	11.8	13.8	13 58.52	0.39	57.38	9 13 0.75	— 0.51
	a Hydræ	38	41.2	43.2	44.4	54.0	55.1	56.3	57.7	58.7	8.2	9.5	10.4	21 56.25	0.17	57.38	9 20 58.70	+ 13.26
	a Leonis	39	54.5	56.5	57.7	7.6	8.7	9.9	11.0	12.3	21.8	23.2	25.2	2 9.85	0.16	57.42	10 1 12.27	+ 14.58
	Mercury II	40	4.0	6.1	7.4	17.0	18.1	19.3	20.5	21.5	30.9	32.3	34.3	42 19.22	0.16	57.47	10 41 21.59	— 0.29
16	Sun I	41	53.5	55.8	57.0	. .	. .	. .	38.8	41.0	42.3	43.6	44.9	37 24.61	15.97	57.52	11 36 11.12	. .
	Sun II	42	2.0	3.9	5.0	14.5	15.7	16.9	18.1	19.1	28.6	30.0	31.8	39 16.87	— 0.16	57.52	11 38 19.19	. .
	Polaris, S. P.	†43	. .	. .	. .	26.0	45.0	55.0	5.0	25.0	0.0	8.0	47.0	8 33.88	+ 3 28.13	57.61	1 11 4.40	+ 14.75
	a Virginis	44	49.1	51.3	52.6	2.2	3.5	4.6	5.7	6.8	16.4	17.8	19.8	19 4.53	— 0.17	57.62	13 18 6.74	14.13
	a Bootis	45	13.2	15.4	16.6	26.8	27.9	29.4	30.5	31.6	41.6	43.1	45.2	10 29.21	0.16	57.68	14 9 31.37	12.56
	ϵ Bootis	46	47.4	49.6	51.0	2.0	3.1	4.4	5.7	7.0	17.6	19.1	21.3	40 4.38	— 0.17	57.71	14 39 6.50	12.08
	B. A. C. 7827	47	48.6	50.7	51.9	1.5	2.6	3.7	5.0	6.0	. .	. .	. .	21 58.75	+ 4.81	58.19	22 21 5.37	11.38
	η Aquarii	48	12.2	14.3	15.5	25.2	26.2	27.3	28.5	29.7	39.1	40.3	42.3	29 27.33	— 0.16	58.19	22 28 28.98	11.62
	Wash. Zone LIV, 17	49	. .	. .	. .	. .	. .	. .	29.4	32.1	33.5	34.8	36.4	32 33.24	37.64	58.20	22 30 57.40	12.77
	g^2 Aquarii	50	4.2	6.2	7.5	17.9	19.0	20.1	21.5	22.6	32.6	33.9	36.2	41 20.15	— 0.18	—58.20	22 40 21.77	+ 12.36

3. Through clouds.
43. Tremulous.

September 15, n. = — 0.01.
16, + 0.03.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*	
	h.	s.	s.	s.
Sept. 15, 19.6	— 56.84	— 0.051	— 0.16	
16, 18.4	— 57.94	— 0.062	— 0.16	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n 1870.0
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 16 Tr.	λ Aquarii	1	21.3	23.4	24.5	34.2	35.4	36.5	37.8	38.8	48.3	49.5	51.5	46 36.47	— 0.17	—58.21	22 45 38.09	+ 11.84
	α Pegasi	2	49.1	51.2	52.4	2.3	3.4	4.6	5.9	7.0	16.6	18.0	20.0	59 4.59	0.16	58.23	22 58 6.20	10.28
	Juno	3	45.5	47.5	48.7	58.1	59.3	0.4	1.7	2.7	12.1	13.6	15.4	3 0.45	0.16	58.23	23 2 2.06	. .
	* — 20° 27′	4	44.4	46.6	48.0	58.2	59.4	0.8	2.0	3.2	13.1	14.5	16.7	8 0.62	0.18	58.23	23 7 2.21	12.11
	γ Piscium	5	57.4	59.5	0.5	10.2	11.2	12.3	13.5	14.7	24.0	25.4	27.4	11 12.37	0.16	58.24	23 10 13.97	11.64
	14 Piscium	6	59.8	1.8	3.0	12.5	13.7	14.9	16.2	17.2	26.4	27.8	29.8	28 14.83	0.16	58.26	23 27 16.41	11.56
	Lacaille 9532	7	. .	. .	.	50.8	52.3	54.5	11.1	13.7	15.1	16.3	17.9	31 6.46	28.78	58.26	23 29 39.42	11.99
	Lacaille 9548	8	. .	. .	. .	53.5	54.8	56.9	13.2	15.6	17.0	18.5	19.8	34 8.66	28.17	58.26	23 32 42.23	11.92
	γ Pegasi	9	. .	. .	. .	17.3	18.4	19.7	21.0	22.0	. .	. .	. .	7 19.68	0.21	58.29	0 6 21.18	11.37
	Weisse 247	10	50.1	52.2	53.4	3.1	4.2	5.2	6.4	7.5	17.0	18.3	20.4	16 5.25	0.16	58.31	0 15 6.78	11.51
	O. Arg. S. 210	11	. .	. .	. .	. .	. .	. .	8.6	11.3	12.5	13.8	15.2	23 12.28	35.73	58.31	0 21 38.24	11.73
	B. A. C. 115	12	. .	. .	. .	. .	. .	. .	12.3	14.7	16.2	17.6	18.1	25 15.78	— 36.66	58.31	0 23 40.81	11.41
	Neptune	13	4.0	5.2	6.4	7.8	10.2	. .	38.2	39.2	40.1	41.5	42.7	38 23.56	+ 16.66	58.32	0 37 41.90	. .
	* + 2° 28′	14	58.6	59.6	0.9	2.1	3.1	. .	30.7	33.1	34.2	35.4	36.8	39 17.45	— 16.80	58.32	0 38 2.33	11.55
	ε Piscium	15	43.5	45.6	46.8	56.4	57.5	58.8	59.9	0.9	10.4	11.8	13.7	56 58.66	— 0.16	58.34	0 56 0.16	11.64
	Polaris	16	24.0	15.0	9.0	57.0	33.0	. .	. .	. .	. .	. .	. .	49 16.80	+22 45.64	58.34	1 11 4.10	14.58
Y. 19	Polaris, S. P.	†17	. .	. .	. .	45.0	. .	. .	28.0	46.0	13.0	26.0	3.0	7 36.83	4 32.48	59.85	1 11 7.46	13.81
	α Bootis	18	15.2	17.4	18.7	28.7	29.8	31.0	32.3	33.5	43.8	45.0	47.2	10 31.15	0.13	59.89	14 9 31.39	12.57
	ε Bootis	19	49.3	51.6	53.0	3.7	4.9	6.2	7.4	8.7	19.6	20.9	23.3	40 6.24	0.16	59.91	14 39 6.49	12.12
	α Libræ	20	11.1	13.3	14.6	24.3	25.4	26.7	27.8	28.9	38.9	40.9	42.3	44 26.68	0.08	59.91	14 43 26.85	14.53
	O. Arg. S. 22432	21	45.3	47.3	48.7	58.6	59.7	1.0	2.4	3.5	13.9	15.1	17.3	43 1.16	0.08	60.17	22 42 1.07	12.37
	O. Arg. S. 22436	22	27.6	29.6	31.0	41.1	42.2	43.4	44.7	45.9	56.2	57.5	59.5	43 43.52	0.08	60.17	22 42 43.43	12.37
	α Piscis Australis	23	58.0	0.2	1.6	12.6	13.8	15.1	16.4	17.7	28.8	30.2	32.6	51 15.18	0.07	60.17	22 50 15.08	12.71
	Lalande 45028	24	38.4	40.3	41.5	51.1	52.1	53.4	54.4	55.7	5.3	6.5	8.5	55 53.38	0.09	60.18	22 54 53.29	11.70
	Juno	25	42.2	44.0	45.2	54.9	55.9	57.1	58.3	59.3	9.1	10.3	12.3	0 57.15	0.09	60.18	22 59 57.06	. .
	* — 20° 27′	26	. .	. .	. .	59.7	0.7	1.9	3.3	4.4	. .	. .	. .	8 2.00	0.13	60.18	23 7 1.95	12.11
	γ Piscium	27	59.0	1.0	2.4	10.8	12.8	14.1	15.2	16.2	25.8	27.0	29.1	11 13.95	0.10	60.18	23 10 13.87	11.64
	O. Arg. S. 22766	28	6.9	9.0	10.2	20.5	21.6	22.9	24.1	25.2	35.5	36.7	38.9	14 22.86	+ 0.08	60.19	23 13 22.75	12.06
	Radcliffe 6081	29	32.9	36.3	38.7	. .	56.1	58.3	0.5	2.3	18.7	20.8	24.3	21 58.89	— 0.10	60.19	23 20 58.60	8.57
	O. Arg. S. 22911	30	21.6	23.6	24.9	35.0	36.0	37.2	38.6	39.5	49.7	51.0	53.0	28 37.28	+ 0.08	60.19	23 27 37.17	11.87
	O. Arg. S. 22993	31	22.3	24.5	25.8	45.7	46.9	48.1	49.4	50.5	1.0	2.2	4.4	35 48.25	0.08	60.20	23 34 48.13	11.85
	δ Sculptoris	32	40.2	42.4	43.8	54.8	55.8	57.2	58.5	59.7	10.7	12.1	14.4	42 57.24	0.07	60.20	23 41 57.11	11.90
	Weisse 936	33	17.5	19.4	20.7	30.1	31.1	32.2	33.5	34.5	44.4	45.4	47.4	47 32.38	0.09	60.20	23 46 32.27	11.58
	* + 3° 20′	34	40.6	42.6	43.9	53.4	54.4	55.7	56.8	57.9	7.5	8.7	10.8	49 55.66	0.11	60.21	23 48 55.56	11.45
	Weisse 1099	35	54.0	55.9	57.1	6.5	7.6	8.7	9.9	11.1	20.9	22.0	24.0	55 8.88	0.09	60.21	23 54 8.76	11.56
	Weisse 1186	36	3.9	5.7	7.1	16.6	17.6	18.8	20.0	21.0	30.7	31.8	33.9	59 18.83	0.10	60.21	23 58 18.72	11.49
	12 Ceti	37	58.0	59.9	1.1	10.6	11.6	12.8	14.1	15.1	24.8	25.9	27.9	24 12.89	+ 0.09	60.23	0 23 12.75	11.50
	B. A. C. 138, (1st *)	38	3.9	5.3	6.5	7.8	10.0	. .	10.4	12.7	13.9	15.4	16.7	28 40.26	— 0.14	60.23	0 27 39.89	11.50
	B. A. C. 138, (2d *)	39	26.0	27.9	29.2	38.8	39.8	41.0	42.2	43.3	53.0	54.1	56.2	28 41.05	+ 0.09	60.23	0 27 40.91	11.50
	Weisse 583	40	13.7	15.7	16.8	26.5	27.4	28.5	29.8	30.8	40.5	41.7	43.7	55 28.65	0.10	60.23	0 34 28.52	11.54
	Neptune	41	9.5	11.4	12.8	22.3	23.2	24.4	25.7	26.8	36.4	37.5	39.5	38 24.50	+ 0.10	60.23	0 37 24.37	. .
	* + 2° 28′	42	. .	. .	. .	. .	. .	. .	32.8	35.3	36.5	37.7	39.0	39 36.26	— 33.57	60.23	0 38 2.46	11.55
	ε Piscium	43	45.5	. .	48.6	. .	. .	. .	. .	. .	12.4	13.6	15.6	57 3.14	— 2.56	60.24	0 56 0.34	11.62
	Weisse 1041	44	20.1	22.2	23.3	32.8	33.8	35.1	36.3	37.3	47.0	48.1	50.2	0 35.11	+ 0.10	60.24	0 59 34.97	11.54
	Weisse 1054	45	. .	. .	. .	12.5	13.4	14.7	15.8	16.9	. .	. .	. .	1 14.66	0.15	60.24	1 0 14.57	11.54
	Polaris	46	35.0	32.0	21.0	10.0	44.0	. .	. .	. .	. .	. .	. .	49 28.40	+22 39.98	60.24	1 11 8.14	13.65
Tr.	α Hydræ	47	56.8	59.2	59.2	0.2	1.4	. .	29.6	31.9	33.3	34.7	35.8	21 16.08	— 16.87	60.42	9 20	+ 13.18
	Venus II	48	42.2	44.3	45.6	55.4	56.5	57.7	58.9	0.0	10.0	11.2	13.3	32 57.74	+ 0.12	60.43	9 31 57.43	— 0.50
	Mercury II	49	31.2	33.1	34.4	43.9	45.0	46.3	47.5	48.5	58.3	59.5	0.6	48 46.21	+ 0.11	—60.48	10 47 45.84	— 0.25

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 19, 20.3	— 60.09	— 0.033	+ 0.10

17. Unsteady.

September 19, n. = + 0.08.

r.

September 18, 12h. 20m. Image west 0.28. Clamp west.
Image east 0.18. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 20	Polaris, S. P.	†1	. .	. .	. .	48.0	11.0	20.0	34.0	44.0	. .	. .	. .	12 19.40	— 7.97	—60.56	1 11 10.87:	+ 13.13
Tr.	α Virginis	2	51.7	53.9	55.1	4.9	5.9	7.1	8.2	9.3	19.3	20.5	22.5	19 7.13	+ 0.09	60.56	13 18 6.66	14.15
	η Bootis	3	1.3	3.2	4.6	14.6	15.6	16.8	18.1	19.3	. .	. .	. .	49 11.69	+ 5.39	60.58	13 48 16.50	13.17
	ε Bootis	4	. .	. .	. .	4.5	5.5	6.8	8.2	9.4	20.3	21.7	24.0	40 12.55	— 5.45	60.61	14 39 6.49	12.13
	β Aquarii	5	16.5	18.5	19.7	29.2	30.3	31.5	32.6	33.8	43.3	44.5	46.6	25 31.50	+ 0.10	60.85	21 24 30.75	12.16
	O. Arg. S. 21480	6	58.5	0.5	1.8	. .	. .	. .	. .	. .	26.2	27.4	29.5	28 13.98	0.05	60.85	21 27 13.18	12.78
	42 Capricorni	7	1.3	3.3	4.7	14.5	15.5	16.7	18.0	19.0	29.0	30.3	32.4	35 16.79	0.09	60.85	21 34 16.03	12.66
	c^2 Capricorni	8	53.3	55.4	56.7	6.2	7.3	8.4	9.7	10.8	20.4	21.7	23.9	40 8.53	0.09	60.86	21 39 7.76	12.32
	* + 2° 4′	9	. .	. .	. .	14.1	15.1	16.3	17.6	18.7	. .	. .	. .	44 16.36	0.15	60.86	21 43 15.65	11.56
	O. Arg. S. 21925	10	43.5	45.7	47.3	57.6	58.7	0.0	1.4	2.5	13.0	14.2	16.5	3 0.04	0.09	60.87	22 1 59.26	12.99
	O. Arg. S. 21944	11	46.7	48.9	50.4	0.7	1.7	3.1	4.5	5.6	16.3	17.3	19.7	4 3.17	+ 0.09	60.87	22 3 2.39	12.97
	O. Arg. S. 21962	12	. .	. .	. .	31.7	33.0	35.5	52.2	54.9	56.3	57.8	59.3	5 47.59	— 29.13	60.87	22 4 17.59	13.12
	O. Arg. S. 21975	13	8.5	10.8	12.3	22.9	23.9	25.2	26.4	27.8	38.6	39.8	42.1	6 25.30	+ 0.09	60.87	22 5 24.52	13.10
	O. Arg. S. 21983	14	. .	. .	. .	. .	. .	. .	. .	. .	45.2	46.6	48.9	6 46.90	— 14.85	60.87	22 5 31.18	13.11
	θ Aquarii	15	32.0	33.9	35.3	44.8	45.8	47.0	48.2	49.3	59.0	0.2	2.2	10 47.06	+ 0.09	60.88	22 9 46.27	12.09
	58 Aquarii	16	21.3	23.3	24.5	34.2	35.3	36.4	37.5	38.7	48.6	49.7	51.8	25 36.48	0.09	60.88	22 24 35.69	12.12
	η Aquarii	17	14.8	16.6	18.1	27.6	28.5	29.7	31.0	32.0	41.5	42.7	44.8	29 29.75	0.10	60.89	22 28 28.96	11.63
	Weisse 1026	18	47.4	49.5	50.8	0.3	1.3	2.5	3.7	4.8	14.3	15.5	17.6	51 2.52	0.10	60.90	22 50 1.72	11.54
	2 Piscium	19	21.9	23.9	25.3	34.6	35.7	36.9	38.1	39.2	48.8	50.0	52.0	53 36.95	0.10	60.90	22 52 36.15	11.53
	* — 6° 9′	20	42.0	43.9	45.2	54.8	55.8	56.9	58.1	59.3	9.0	10.1	12.2	57 57.03	0.10	60.90	22 56 56.23	11.74
	* — 6° 12′	21	28.0	30.0	31.2	40.7	41.7	43.0	44.1	45.2	55.0	56.1	58.1	58 43.01	0.10	60.90	22 57 42.21	11.74
	Juno	22	2.5	4.5	5.7	15.3	16.3	17.4	18.6	19.8	29.4	30.6	32.6	0 17.52	0.10	60.90	22 59 16.72	. .
	Lalande 45326	23	4.2	6.2	7.7	17.3	18.4	19.6	20.8	22.1	31.9	33.2	35.2	4 19.69	+ 0.09	60.91	23 3 18.87	11.97
	Weisse 112	24	. .	. .	. .	27.6	28.8	30.7	46.1	48.4	49.6	50.8	52.3	8 41.79	— 25.93	60.91	23 7 14.95	11.44
	γ Piscium	25	0.8	2.7	4.0	13.5	14.6	15.7	16.8	17.9	27.5	28.8	30.8	11 15.74	+ 0.10	60.91	23 10 13.93	11.64
	97 Aquarii	26	. .	. .	. .	36.7	37.8	39.0	40.2	41.4	51.4	52.7	54.8	16 44.25	— 5.06	60.91	23 15 38.28	11.92
	* + 54° 5′	27	. .	. .	. .	. .	. .	. .	15.0	18.9	21.2	23.4	25.5	21 20.80	— 57.11	60.92	23 20 22.77	8.56
	* + 54° 5′	28	6.2	8.6	10.4	12.5	16.6	42.5	45.6	47.8	. .	. .	. .	22 23.78	+ 44.05	60.92	23 22 6.91	8.63
	* + 54° 5′	29	57.0	0.5	2.5	19.0	20.6	22.7	24.8	26.6	43.4	45.2	48.9	23 22.84	0.24	60.92	23 22 22.16	8.65
	b^4 Aquarii	30	1.0	3.2	4.6	14.7	15.8	17.2	18.4	19.6	29.9	31.3	33.3	27 17.18	0.09	60.92	23 26 16.35	11.95
	ι Piscium	31	50.3	52.2	53.5	3.0	3.9	5.1	6.4	7.4	17.1	18.3	20.2	34 5.22	0.11	60.92	23 33 4.41	11.49
	Neptune	32	4.1	6.1	7.4	16.9	17.9	19.0	20.2	21.4	30.9	32.1	34.1	38 19.10	0.10	60.96	0 37 18.24	. .
	* + 2° 28′	33	48.5	50.4	51.7	1.1	2.1	3.3	4.5	5.5	15.2	16.4	18.3	39 3.36	0.10	60.96	0 38 2.50	11.54
	Weisse 694	34	32.3	34.2	35.5	44.8	45.9	47.1	48.3	49.4	59.0	0.2	2.3	41 47.18	0.10	60.96	0 40 46.32	11.54
	ε Piscium	35	46.0	47.9	49.3	58.8	59.8	1.0	2.2	3.3	12.9	14.1	16.3	57 1.05	0.11	60.97	0 56 0.19	11.61
	Polaris	36	39.0	30.0	23.0	11.0	46.0	. .	. .	. .	. .	. .	. .	49 29.80	22 38.84	60.97	1 11 7.67	+ 13.31
Y.	Venus II	37	25.6	27.6	28.9	38.7	39.7	41.0	42.1	43.4	53.5	54.6	56.8	37 41.08	0.12	0.93	9 36 40.27	— 0.49
	α Leonis	38	57.9	0.0	1.2	10.9	11.9	13.2	14.3	15.5	25.3	26.4	28.5	1 13.19	0.11	0.93	10 1 12.37	+ 14.51
	γ Leonis	39	17.7	19.9	21.3	31.3	32.5	. .	35.0	36.1	46.3	47.7	49.7	12 33.75	0.14	0.93	10 12 32.96	+ 15.15
	Mercury II	40	30.0	32.0	33.3	42.7	43.8	45.1	46.2	47.3	56.9	58.2	0.4	51 45.08	0.12	0.93	10 51 44.27	— 0.25
21	Sun I	†41	54.4	56.3	57.5	7.1	8.1	9.3	10.5	11.6	21.2	22.2	24.4	54 9.33	0.10	0.94	11 54 8.49	. .
	Sun II	†42	2.5	4.4	5.5	15.2	16.2	17.4	18.6	19.6	29.3	30.5	32.5	56 17.43	+ 0.10	0.94	11 56 16.59	. .
	Polaris, S. P.	43	. .	. .	. .	42.5	3.0	14.0	25.0	44.0	. .	. .	. .	11 13.70	— 7.97	0.94	1 11 4.79	+ 13.13
	α Virginis	44	. .	. .	. .	19.3	20.6	22.7	38.3	40.6	42.0	43.3	44.8	18 33.95	— 26.36	0.94	13 18 6.65	14.16
	α Bootis	45	16.3	18.4	19.7	29.7	30.9	32.2	33.4	34.5	44.7	46.0	48.3	9 32.19	+ 0.09	0.95	14 9 31.33	12.59
	β Aquarii	46	16.5	18.5	19.8	29.1	30.2	31.5	32.6	33.7	43.3	44.7	46.7	24 31.51	0.10	0.97	21 24 30.64	+ 12.17
	β Cephei	47	16.2	21.8	25.6	53.0	56.1	59.5	3.0	6.3	34.4	37.7	43.7	26 59.75	0.43	0.97	21 26 59.21	— 0.74
	B. A. C. 7550	48	. .	31.1	32.3	42.3	43.4	44.7	45.8	47.0	57.4	58.7	. .	35 44.74	+ 0.10	0.98	21 35 43.86	+ 13.02
	* + 2° 5′	49	. .	. .	. .	22.8	24.0	26.0	41.3	43.6	44.8	46.2	47.4	42 37.01	— 25.92	0.98	21 42 10.11	11.57
	* + 2° 4′	50	1.5	3.5	4.6	14.2	15.2	16.4	17.4	18.5	28.3	29.4	31.4	43 16.40	+ 0.10	— 0.98	21 43 15.52	+ 11.57

1. Very unsteady.
41. Steady.
42. Steady.

September 20–21. By P. S. P., P., and P. S. P., n. = + 0.05 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 20, 18.9	— 60.76	— 0.035	+ 0.10
21, 15.2	— 0.95	— 0.004	+ 0.19

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduced to 1870.0
1865			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 21 E.	α Aquarii	†1	40.5	42.6	43.9	..	..	..	25.8	28.3	29.5	30.7	32.0	59 11.66	— 15.97	— 0.98	21 58 54.71	+ 11.62
	α Hydræ	2	44.6	46.5	47.8	57.4	58.4	59.5	0.8	1.9	11.5	12.8	14.8	20 59.64	+ 0.08	0.93	9 20 58.79	+ 13.15
	Venus II	3	..	..	..	..	..	..	54.9	57.5	58.7	59.9	1.3	41 58.46	— 34.72	0.94	9 41 22.80	— 0.49
	α Leonis	†4	57.8	59.7	1.0	10.9	11.9	13.2	14.4	15.6	25.1	26.5	28.5	1 13.15	+ 0.11	0.94	10 1 12.32	+ 14.49
	γ Leonis	†5	..	..	..	46.5	47.8	49.9	6.1	8.6	10.1	11.2	13.0	13 1.65	— 27.65	0.94	10 12 33.06	+ 15.13
	Mercury II	6	58.0	59.9	1.2	10.8	11.8	13.0	14.2	15.2	24.9	26.1	28.1	54 13.02	+ 0.10	0.96	10 54 12.16	— 0.24
22	Sun I	†7	30.0	31.7	33.0	42.7	43.6	44.8	46.0	47.0	56.8	58.1	0.0	57 44.88	0.09	1.00	11 57 43.97	..
	Sun II	†8	38.2	40.2	41.4	50.9	51.9	52.9	54.3	55.3	5.1	6.1	8.2	59 53.14	+ 0.09	1.00	11 59 52.23	..
	α Coronæ Borealis	†9	..	..	..	13.6	14.9	17.0	34.3	37.2	38.5	40.0	41.3	29 29.60	— 29.10	1.03	15 28 59.47	+ 11.54
	α Serpentis	†10	24.8	26.8	28.0	37.4	38.6	39.7	41.0	42.2	..	..	..	37 34.81	+ 5.12	1.04	15 37 38.89	12.20
	β Aquarii	11	16.6	18.6	20.1	29.4	30.5	31.7	32.9	34.0	43.6	44.9	46.9	24 31.75	+ 0.08	1.14	21 24 30.69	12.15
	* + 1° 39′	†12	..	..	..	..	..	..	..	..	38.1	39.2	41.4	41 39.57	— 13.21	1.14	21 41 25.22	11.61
	* + 2° 11′	†13	5.5	7.6	8.8	18.3	19.4	20.6	21.6	22.8	32.5	33.6	35.6	43 20.57	+ 0.09	1.14	21 43 19.52	11.57
	α Aquarii	14	40.7	42.9	44.1	53.4	54.4	55.7	56.9	57.9	7.5	8.7	10.7	58 55.72	0.09	1.14	21 58 54.67	11.79
	O. Arg. N. 23452	15	6.5	9.9	11.8	27.6	29.1	31.1	33.2	35.0	50.9	52.8	56.1	2 31.27	0.24	1.15	22 2 30.36	6.77
	Weisse 113	16	47.0	49.0	50.3	59.7	0.7	1.8	3.1	4.1	13.8	15.0	17.0	7 1.95	+ 0.09	1.15	22 7 0.89	11.59
	Lacaille 9139	17	..	..	..	..	..	..	0.1	2.9	4.6	6.2	8.0	22 4.36	— 42.45	1.15	22 21 20.76	13.49
	O. Arg. S. 22237	18	10.9	12.8	14.3	24.3	25.4	26.7	27.9	29.1	39.2	40.5	42.6	27 26.70	+ 0.07	1.15	22 27 25.62	12.52
	Weisse 602	19	21.0	23.1	24.4	33.9	35.0	36.2	37.4	38.5	48.3	49.4	51.5	29 36.25	0.08	1.15	22 29 35.18	12.08
	Weisse 619	20	56.8	58.5	59.8	9.6	10.6	11.8	13.0	14.1	24.0	25.1	27.2	30 11.77	+ 0.08	1.15	22 30 10.70	12.07
	* — 10° 53′	21	..	..	..	10.5	11.7	13.7	29.2	31.5	32.9	34.3	35.5	35 24.91	— 26.41	1.15	22 34 57.35	12.04
	B. A. C. 7918	22	41.7	46.6	47.9	57.5	58.5	59.7	1.0	2.0	11.9	13.1	15.2	35 59.83	+ 0.08	1.15	22 35 58.76	12.03
	O. Arg. S. 22373	23	51.9	54.0	55.5	6.2	7.3	8.5	10.0	11.0	22.0	23.2	25.6	37 8.66	0.07	1.16	22 37 7.57	12.64
	g^2 Aquarii	24	6.8	8.9	10.3	20.3	21.4	22.6	24.0	25.2	35.4	36.6	38.8	40 22.75	0.07	1.16	22 40 21.66	12.37
	λ Aquarii	25	24.0	26.0	27.3	36.8	37.9	39.0	40.2	41.2	51.1	52.3	54.3	45 39.10	0.08	1.16	22 45 38.02	11.85
	Lacaille 9316	26	50.0	52.5	54.1	5.8	7.1	8.6	10.1	11.4	23.3	24.7	27.4	51 8.64	0.06	1.16	22 51 7.54	11.84
	Lacaille 9352	27	29.0	30.4	32.1	33.7	36.5	..	..	..	..	..	..	56 32.34	41.40	1.16	22 57 12.58	12.74
	Juno	28	44.1	46.0	47.3	57.0	58.0	59.1	0.3	1.3	11.0	12.2	14.3	57 59.15	0.08	1.16	22 57 58.07	..
	* — 20° 27′	29	47.3	49.3	50.6	0.8	1.8	3.1	4.4	5.5	15.9	17.0	19.2	7 3.17	0.07	1.16	23 7 2.08	12.14
	B. A. C. 161	30	23.5	25.4	26.8	36.2	37.4	38.5	39.5	40.6	50.4	51.5	53.6	30 38.49	0.09	1.17	0 30 37.41	11.45
	Weisse 571	31	51.0	53.1	54.3	3.8	4.7	5.9	7.2	8.4	18.1	19.2	21.1	34 6.07	0.10	1.17	0 34 5.00	11.41
	Neptune	32	52.8	54.6	55.9	5.3	6.4	7.6	8.8	9.9	19.4	20.7	22.6	37 7.64	0.09	1.19	0 37 6.54	..
	* + 2° 28′	33	48.7	50.7	52.1	1.3	2.4	3.5	4.7	5.7	15.5	16.6	18.7	38 3.64	0.09	1.19	0 38 2.54	11.52
	δ Piscium	34	30.8	32.7	34.1	43.5	44.5	45.7	17.0	48.0	57.8	59.0	1.1	41 45.84	0.10	1.19	0 41 44.75	11.56
	B. A. C. 286	35	18.1	20.1	21.4	31.0	32.0	33.1	34.3	35.5	45.2	16.3	48.4	55 33.22	+ 0.10	1.19	0 55 32.13	11.60
	ϵ Piscium	36	59.0	0.1	1.3	2.4	3.6	..	31.9	34.2	35.5	36.8	38.0	56 18.28	— 16.83	1.19	0 56 0.26	11.59
	Weisse 1031	37	1.1	3.1	4.4	13.8	14.9	16.2	17.3	18.3	27.8	29.0	31.2	59 16.10	+ 0.09	1.20	0 59 14.99	11.56
	Weisse 20	38	6.5	8.6	9.9	19.3	20.4	21.5	22.8	23.9	33.2	34.5	36.5	3 21.55	0.09	1.20	1 3 20.44	11.57
	* + 2° 12′	39	56.0	58.0	59.4	8.6	9.6	10.8	12.0	13.1	22.8	24.0	25.9	6 10.93	0.09	1.20	1 6 9.82	11.58
	Polaris	40	37.0	29.0	18.0	12.0	45.0	..	..	..	..	..	..	48 28.20	+22 39.41	1.19	1 11 6.46	12.57
Tr.	γ Leonis	41	31.7	32.8	34.1	35.4	36.6	..	6.5	8.9	10.2	11.5	13.1	12 52.08	— 17.86	1.21	10 12 33.01	15.15
23	Sun I	42	6.0	7.9	9.2	18.8	19.8	21.0	22.3	23.3	32.8	34.1	36.1	1 21.03	+ 0.09	1.25	12 1 19.87	..
	Sun II	43	14.2	16.3	17.6	27.2	28.3	29.4	30.6	31.6	41.1	42.3	44.5	3 29.37	0.09	1.25	12 3 28.21	..
	Polaris, S. P.	†44	..	..	..	49.0	5.0	..	28.0	47.0	18.0	27.0	2.0	5 20.13	5 49.39	1.28	1 11 8.24	12.36
	α Virginis	45	52.5	54.5	56.0	5.4	6.6	7.8	8.9	10.0	20.0	21.1	23.1	18 7.81	0.08	1.28	13 18 6.61	14.16
	α Bootis	46	16.5	18.5	20.0	30.0	31.1	32.4	33.6	34.8	15.2	46.4	48.4	9 32.45	0.12	1.31	14 9 31.26	12.61
	ϵ Bootis	†47	50.7	53.0	54.4	..	..	..	..	..	..	..	..	38 52.70	15.06	1.32	14 39 6.44	12.17
	Moon I	†48	2.0	4.2	5.7	15.5	16.5	17.8	19.2	20.2	30.4	31.5	33.8	42 17.89	+ 0.08	1.32	14 42 16.65	..
	α Libræ	49	..	..	..	..	..	..	59.4	1.8	3.3	4.5	6.0	44 3.00	— 34.83	1.32	14 43 26.85	14.58
	* + 1° 39′	50	11.6	13.6	14.8	24.2	25.3	26.4	27.7	28.8	38.3	39.4	41.4	41 26.50	+ 0.09	— 1.48	21 41 25.11	+ 11.62

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 22, 17.0	— 1.06	— 0.017	+ 0.09

1. Through clouds.
4. Unsteady.
5. Faint.
7. Unsteady.
8. Unsteady.
9. Through clouds.
10. Through clouds.
12. Through clouds.
13. Through clouds.
44. Through clouds.
47. Cloudy.
48. Very faint.

September 21–22–23. By P., P. S. P., and P., n. = + 0.07 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 23 Tr.	* + 2° 4′	1	2.0	4.0	5.2	..	..	..	..	..	28.7	30.0	32.0	43 16.98	+ 0.05	— 1.49	21 43 15.54	+ 11.59
	* + 2° 11′	2	..	..	..	18.7	19.7	20.8	22.1	23.1	..	..	..	43 20.88	0.14	1.49	21 43 19.53	11.58
	μ Capricorni	3	45.7	47.7	49.1	58.8	59.8	1.0	2.2	3.4	13.3	14.6	16.8	46 1.13	0.08	1.50	21 45 59.71	12.64
	O. Arg. S. 21772	4	0.9	2.4	3.8	5.1	7.7	..	..	..	..	..	..	51 3.98	36.54	1.50	21 50 39.02	13.14
	O. Arg. S. 21774	5	29.6	31.6	33.1	43.5	44.7	45.9	47.2	48.4	58.3	59.7	1.9	51 45.81	0.07	1.50	21 51 44.38	13.14
	O. Arg. S. 21903	6	0.4	2.5	4.0	14.3	15.5	16.9	18.2	19.3	..	..	..	0 11.39	+ 5.58	1.50	22 0 15.47	13.08
	O. Arg. S. 21972	7	45.0	46.4	47.8	49.1	51.6	..	56.4	58.8	0.2	1.7	3.1	5 24.01	— 0.18	1.50	22 5 22.33	12.84
	O. Arg. S. 21980	8	14.8	16.8	18.2	28.3	29.5	30.8	32.1	33.4	43.7	45.0	47.3	5 30.90	+ 0.07	1.50	22 5 29.47	12.84
	O. Arg. S. 21987	9	..	..	..	..	..	..	17.8	21.4	22.8	24.1	25.6	6 22.34	— 36.23	1.51	22 5 44.60	12.83
	O. Arg. S. 22002	10	..	..	..	41.2	42.3	43.6	45.0	46.1	56.5	57.8	59.9	6 49.05	— 5.28	1.51	22 6 42.26	12.83
	O. Arg. S. 22022	11	2.3	4.3	5.7	15.9	17.0	18.2	19.5	20.8	31.1	32.4	34.6	8 18.35	+ 0.07	1.51	22 8 16.91	12.80
	O. Arg. S. 22087	12	31.8	33.8	35.3	45.5	46.6	47.9	49.1	50.3	..	..	..	13 42.54	5.46	1.51	22 13 46.49	12.74
	O. Arg. S. 22092	13	58.5	0.7	2.0	12.2	13.3	14.5	15.9	17.1	27.4	28.7	30.9	14 14.65	0.07	1.51	22 14 13.21	12.75
	O. Arg. S. 22123	14	39.8	41.7	43.3	53.4	54.5	55.8	57.0	58.2	8.6	9.9	12.1	16 55.85	0.07	1.51	22 16 54.41	12.72
	O. Arg. S. 22132	15	1.7	3.7	5.1	15.4	16.4	17.7	19.0	20.1	30.5	31.8	34.1	18 17.77	0.07	1.51	22 18 16.33	12.70
	O. Arg. S. 22177	16	39.3	41.5	42.9	53.5	54.7	56.0	57.4	58.7	..	..	..	21 50.50	+ 5.71	1.51	22 21 54.70	12.94
	O. Arg. S. 22181	17	..	..	..	15.3	16.5	17.7	19.2	20.3	31.1	32.4	34.8	22 23.41	— 5.54	1.51	22 22 16.36	12.93
	O. Arg. S. 22204	18	..	..	..	4.8	6.0	7.4	8.7	10.0	20.9	22.2	24.4	25 13.08	— 5.56	1.51	22 25 6.01	12.92
	O. Arg. S 22224	19	25.2	27.2	28.6	39.5	40.6	42.1	43.3	44.6	55.4	56.9	59.1	26 42.05	+ 0.07	1.51	22 26 40.61	12.89
	* — 28° 15′	20	..	..	..	53.2	54.4	56.8	14.0	16.6	18.1	19.4	21.0	28 9.16	— 29.46	1.51	22 27 38.19	12.87
	O. Arg. S. 22288	21	25.4	27.5	28.9	39.7	40.8	42.1	43.5	44.8	55.7	56.9	59.3	30 42.24	+ 0.07	1.51	22 30 40.60	12.83
	O. Arg. S. 22304	22	..	..	..	30.9	32.1	33.4	34.8	36.1	47.1	48.4	50.7	31 39.19	— 5.56	1.52	22 31 32.11	12.82
	ζ Pegasi	23	33.9	35.8	37.1	46.8	47.8	48.8	50.2	51.3	1.0	2.3	4.3	34 49.03	+ 0.10	1.52	22 34 47.61	11.11
	O. Arg. S. 22374	24	51.9	54.1	55.4	5.9	7.0	8.2	9.6	10.8	21.3	22.6	24.8	37 8.33	0.07	1.52	22 37 6.88	12.58
	O. Arg. S. 22391	25	7.5	9.6	11.0	21.3	22.4	23.7	25.0	26.3	36.8	38.1	40.2	38 23.81	0.07	1.52	22 38 22.36	12.57
	O. Arg. S. 22450	26	26.7	28.8	30.2	40.6	41.7	42.9	44.4	45.3	56.1	57.4	59.6	44 43.06	+ 0.07	1.52	22 44 41.61	12.50
	O. Arg. S. 22466	27	..	..	..	6.9	8.0	9.2	10.5	11.8	22.2	23.5	25.9	46 14.75	— 5.38	1.52	22 46 7.85	12.48
	O. Arg. S. 22487	28	40.3	42.4	43.8	54.2	55.3	56.6	58.0	59.2	9.8	11.1	13.3	47 56.74	+ 0.07	1.52	22 47 55.29	12.46
	O. Arg. S. 22499	29	..	..	..	59.9	1.1	2.4	3.7	5.0	15.4	16.7	19.0	49 7.90	— 5.38	1.52	22 49 1.00	12.44
	O. Arg. S. 22508	30	49.6	51.7	53.3	3.5	4.7	6.0	7.3	8.5	19.1	20.3	22.6	50 6.06	+ 0.07	1.52	22 50 4.61	12.43
	* — 6° 40′	31	44.1	46.1	47.3	56.9	57.9	59.1	0.3	1.4	..	..	..	54 54.14	5.10	1.53	22 54 57.71	11.78
	Juno	32	6.3	8.3	9.6	19.0	20.1	21.3	22.4	23.5	33.2	34.4	36.4	57 21.32	0.08	1.53	22 57 19.87	..
	c^2 Aquarii	33	3.7	5.9	7.4	17.6	18.7	19.8	21.2	22.3	32.6	34.0	36.2	2 19.95	0.07	1.53	23 2 18.49	12.20
	φ Aquarii	34	10.1	12.0	13.3	22.8	23.8	25.0	26.2	27.2	37.0	38.1	40.1	7 25.05	0.08	1.53	23 7 23.60	11.73
	γ Piscium	35	0.4	2.4	3.7	13.1	14.1	15.4	16.5	17.6	27.2	28.4	30.4	10 15.38	0.09	1.53	23 10 13.94	11.64
	ι Piscium	36	50.9	52.7	54.0	3.6	4.6	6.0	7.0	8.1	17.7	19.0	21.0	33 5.87	+ 0.10	1.54	23 33 4.43	11.48
	Astræa	37	..	..	..	16.9	18.1	20.3	35.6	38.0	39.3	40.5	42.0	38 31.34	— 26.14	1.54	23 38 3.66	..
	B. A. C. 167	38	..	..	..	13.2	14.2	15.2	16.4	17.7	27.3	28.5	30.5	32 20.38	4.87	1.57	0 32 13.94	11.50
	Neptune	39	..	..	..	13.8	14.9	17.0	32.1	34.4	35.7	37.0	38.4	37 27.91	— 25.94	1.57	0 37 0.40	..
	* + 2° 28′	40	49.0	51.1	52.3	1.8	2.8	4.0	5.1	6.2	16.0	17.1	19.2	38 4.06	+ 0.09	1.57	0 38 2.58	11.51
	Weisse 694	41	12.0	13.3	14.5	15.8	18.1	..	18.3	20.5	21.8	23.1	24.4	40 48.18	— 0.14	1.57	0 40 46.47	11.52
	* + 2° 12′	42	40.4	42.1	43.5	53.0	54.1	55.2	56.5	57.7	7.1	8.3	10.4	40 55.30	+ 0.07	1.57	0 40 53.80	11.52
	ε Piscium	43	46.8	48.7	50.0	..	0.5	1.6	2.9	4.0	13.7	15.0	16.9	56 2.01	— 0.12	1.57	0 56 0.32	11.58
	Polaris	44	41.0	36.0	26.0	12.0	45.0	..	..	..	..	..	..	48 32.00	+22 39.52	1.57	1 11 9.95	12.16
E 24	α Coronæ Borealis	45	44.4	46.5	47.9	58.6	59.7	1.0	2.3	3.5	14.4	15.6	17.9	29 1.07	0.14	1.74		+ 11.58
Y. 25	Venus II	†46	53.5	55.6	56.8	6.6	7.6	8.8	10.1	11.3	21.0	22.4	24.5	0 8.93	0.11	1.58	10 0 7.46	— 0.48
	α Leonis	47	58.6	0.7	2.0	11.6	12.7	14.0	15.2	16.3	26.0	27.2	29.3	1 13.96	+ 0.11	1.58	10 1 12.49	+ 14.43
	γ Leonis	48	..	..	..	..	..	..	6.8	9.4	10.7	12.1	13.7	13 10.54	— 35.80	— 1.58	10 12 33.16	+ 15.07

46. Unsteady.

September 24-25, n. = + 0.s07.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Sept. 23, 18.3	— 1.41	— 0.025	+ 0.09
24, 15.5	— 1.74		

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 25	δ Leonis	†1	. .	. .	. .	10.8	12.3	14.4	30.7	33.2	34.6	36.1	37.5	7 26.20	— 27.79	— 1.61	11 6 56.80	+ 14.74
Y.	Mercury	†2	8.5	9.6	10.8	12.0	13.0	. .	41.2	43.8	45.0	46.4	47.6	12 27.79	16.88	1.62	11 12 9.29	. .
26	Sun I	†3	. .	. .	. .	7.1	8.2	9.3	10.5	11.6	21.3	22.5	24.6	12 14.39	— 4.88	1.65	12 12 7.86	. .
	Sun II	4	3.1	4.7	6.0	15.7	16.6	17.7	19.0	20.1	29.7	30.9	32.8	14 17.85	+ 0.09	1.65	12 14 16.29	. .
	Polaris, S. P.	5	22.0	0.0	9.5	43.0	4.0	13.0	26.0	44.0	8.5	21.0	1.0	11 12.00	— 1.63	1.68	1 11 8.69	11.20
	α Bootis	6	17.0	19.2	20.5	30.4	31.6	32.8	34.1	35.3	45.5	46.8	49.0	9 32.93	+ 0.08	1.72	14 9 31.29	12.63
	α Serpentis	7	25.4	27.4	28.7	38.2	39.2	40.4	41.6	42.7	52.4	53.6	55.7	37 40.48	0.08	1.76	15 37 38.80	13.06
	α Scorpii	8	55.6	57.6	59.0	9.7	10.8	12.2	13.5	14.8	25.4	26.7	29.0	21 12.21	0.13	1.79	16 21 10.55	+ 15.73
	ϵ Ursæ Minoris	9	55.0	9.5	19.0	29.5	36.5	45.5	54.2	2.2	13.7	22.5	37.5	59 45.92	0.30	1.81	16 59 44.41	— 22.39
	α Herculis	10	17.7	19.7	21.1	30.7	31.8	33.1	34.3	35.4	45.4	46.6	48.8	8 33.15	0.08	1.82	17 8 31.41	+ 11.72
	Moon I	11	22.6	24.7	26.1	36.3	37.4	38.6	39.8	41.0	51.4	52.8	55.0	16 38.70	0.11	1.82	17 16 36.99	. .
	* + 7° 57′	12	26.6	28.7	30.0	39.5	40.5	41.7	42.9	43.9	53.6	54.8	56.8	52 41.73	0.08	1.91	19 52 39.90	11.49
	Dorpat 2615	13	11.5	13.5	14.7	24.2	25.3	26.5	27.7	28.7	38.5	39.6	41.7	56 26.54	+ 0.08	1.91	19 56 24.71	+ 11.48
	λ Ursæ Minoris	14	. .	. .	. .	. .	49.0	53.0	57.0	50.0	. .	. .	. .	59 22.25	— 24.33	1.91	19 58 56.01	— 284.49
	O. Arg. S. 20294	15	21.2	23.3	24.6	34.5	35.5	36.8	38.0	39.2	49.4	50.5	52.8	3 36.89	+ 0.11	1.92	20 3 35.08	+ 13.79
	O. Arg. S. 20320	16	. .	25.2	26.4	36.3	37.5	38.7	39.9	40.9	51.1	52.4	. .	5 38.71	0.12	1.92	20 5 36.91	13.65
	O. Arg. S. 20442	17	25.5	27.6	28.9	38.7	39.7	41.0	42.2	43.4	53.3	54.5	56.6	14 41.04	+ 0.11	1.92	20 14 39.23	13.49
	π Capricorni	18	38.5	39.5	40.8	42.0	43.1	. .	12.7	15.3	16.5	17.8	19.3	19 58.55	— 17.62	1.93	20 19 39.00	13.66
	B. A. C. 7063	19	20.1	22.2	23.4	33.3	34.4	35.7	36.9	38.0	47.9	49.1	51.3	23 35.66	+ 0.11	1.93	20 23 33.84	13.37
	* — 15° 26′	20	. .	. .	. .	10.6	11.8	13.0	14.3	15.4	. .	. .	. .	24 13.02	0.16	1.93	20 24 11.25	13.36
	O. Arg. S. 20595	21	16.3	18.3	19.5	29.4	30.4	31.8	32.9	34.0	44.1	45.3	47.4	25 31.76	0.11	1.93	20 25 29.94	13.35
	O. Arg. S. 20660	22	38.8	41.0	42.4	52.6	53.7	55.2	56.3	57.5	17.8	19.1	21.2	29 55.05	0.12	1.93	20 29 53.24	13.97
	O. Arg. S. 20765	23	23.3	25.5	26.8	37.3	38.5	40.0	41.0	42.2	52.9	54.2	56.5	35 39.84	0.12	1.93	20 35 38.03	14.12
	O. Arg. S. 20827	24	21.3	23.4	24.9	35.2	36.4	37.9	39.2	40.3	50.9	52.2	54.5	38 37.84	0.12	1.94	20 38 36.02	14.10
	B. A. C. 7197	25	17.9	20.1	21.5	31.8	32.7	34.2	35.4	36.6	47.0	48.3	49.6	40 34.10	+ 0.12	1.94	20 40 32.28	13.89
	O. Arg. S. 20917	26	. .	. .	. .	1.5	2.7	4.0	5.3	6.4	17.0	18.2	20.6	45 9.46	— 5.34	1.94	20 45 2.18	13.97
	O. Arg. S. 20933	27	54.2	56.3	57.7	8.2	9.2	10.6	11.9	13.1	23.7	25.0	27.3	46 10.65	+ 0.12	1.94	20 46 8.83	13.96
	* — 24° 45′	28	12.3	14.6	15.8	26.3	27.4	28.6	29.9	31.2	41.8	43.0	45.3	48 28.75	0.12	1.94	20 48 26.93	13.94
	B. A. C. 7270	29	45.2	47.3	48.7	58.7	59.7	1.0	2.3	3.3	13.6	14.8	17.0	52 1.15	+ 0.11	1.94	20 51 59.32	13.46
	Lacaille 8641	30	. .	. .	. .	. .	. .	. .	2.5	5.5	7.0	8.9	10.4	54 6.86	— 42.03	1.95	20 53 22.88	15.06
	O. Arg. S. 21148	31	50.0	52.2	53.5	4.0	5.0	6.3	7.6	8.8	19.3	20.5	22.7	1 6.35	+ 0.12	1.95	21 1 4.52	13.65
	* — 23° 52′	32	. .	.	. .	9.2	10.5	12.7	29.3	31.9	33.2	34.7	36.2	3 24.71	— 28.32	1.95	21 2 54.44	13.70
	1 Pegasi	33	40.0	42.2	43.6	53.5	54.7	55.9	57.1	58.3	8.5	9.8	11.8	15 55.95	+ 0.08	1.96	21 15 54.07	10.42
	* — 23° 0′	34	14.7	16.9	18.2	28.4	29.5	30.7	32.0	33.2	43.7	44.9	47.1	18 30.85	+ 0.12	1.96	21 18 29.01	13.46
	ζ Capricorni	35	. .	. .	. .	0.4	1.5	2.8	4.2	5.4	15.9	17.1	19.3	19 8.33	— 5.26	1.96	21 19 1.11	13.45
	Weisse 506	36	36.1	38.1	39.3	49.0	50.0	51.1	52.4	53.5	3.2	4.4	6.5	22 51.24	+ 0.10	1.96	21 22 49.38	12.44
	Weisse 623	37	. .	. .	. .	17.3	18.3	19.5	20.7	21.8	. .	. .	. .	27 19.52	+ 0.15	1.96	21 27 17.71	12.39
	Weisse 628	38	54.3	55.6	56.9	58.1	0.4	. .	1.2	3.7	4.9	6.3	7.6	27 30.90	— 0.13	1.96	21 27 28.81	12.37
	ϵ Pegasi	39	23.8	25.7	26.9	36.6	37.6	38.8	40.0	41.1	50.9	52.1	54.1	37 38.87	+ 0.08	1.97	21 37 36.98	11.16
	Weisse 962	40	13.8	15.9	17.0	26.5	27.6	28.8	30.0	31.0	40.6	41.8	43.9	40 28.81	+ 0.09	1.97	21 40 26.93	11.62
	* + 1° 39′	41	. .	. .	. .	38.8	40.0	42.0	57.2	59.6	0.7	2.1	3.5	41 52.99	— 25.93	1.97	21 41 25.09	11.64
	Weisse 1037	42	11.0	13.0	14.2	23.8	24.9	25.9	27.0	28.1	37.8	38.9	41.0	44 25.95	+ 0.09	1.97	21 44 24.07	11.58
	Weisse 1087	43	30.2	31.6	32.9	34.2	36.6	. .	37.9	40.5	41.7	42.9	44.3	47 7.28	— 0.13	1.97	21 47 5.18	12.45
	* — 11° 59′	44	57.7	59.5	0.9	10.5	11.6	12.9	14.1	15.2	24.9	26.2	28.1	47 12.87	+ 0.10	1.97	21 47 11.00	12.45
	Juno	45	18.0	20.0	21.2	30.8	31.9	33.0	34.0	35.3	45.0	46.1	48.2	55 33.05	+ 0.10	2.01	22 55 31.14	. .
	Weisse 1157	46	1.5	2.8	4.1	5.3	7.7	. .	8.0	10.5	11.7	13.0	14.5	55 37.91	— 0.13	2.01	22 55 35.77	11.80
	Weisse 1223	47	19.9	21.8	23.1	32.7	33.7	34.9	36.2	37.2	46.8	48.0	50.0	58 34.94	+ 0.09	2.02	22 58 33.01	11.71
	Weisse 1248	48	33.0	35.1	36.3	45.8	46.8	48.0	49.2	50.3	0.0	1.1	3.2	59 48.07	0.09	2.02	22 59 [illegible]2.14	11.70
	* — 20° 27′	49	48.1	50.1	51.4	1.6	2.6	3.8	5.0	6.2	16.7	17.9	20.0	7 3.95	+ 0.11	— 2.02	23 7 [illegible]2.04	+ 12.14

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 26, 17.8	— 1.84	— 0.034	+ 0.09

1. Faint.
2. Unsteady.
3. Unsteady.

September 25–26, n. = —0.05 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 26	γ Piscium	1	0.9	2.9	4.2	13.6	14.6	15.9	17.1	18.0	27.8	28.8	30.9	10 15.88	+ 0.09	— 2.02	23 10 13.95	+ 11.64
Y.	B. A. C. 138	2	26.9	28.9	30.1	39.7	40.5	41.8	43.0	44.1	53.7	55.0	57.0	27 41.88	0.10	2.07	0 27 39.91	11.46
	* + 2° 50′	3	59.4	1.3	2.6	12.1	13.2	14.3	15.5	16.6	26.1	27.5	29.2	35 14.35	0.09	2.07	0 35 12.37	11.49
	Neptune	4	29.1	31.1	32.2	41.7	42.8	44.0	45.2	46.3	55.7	57.0	59.0	36 44.01	0.09	2.07	0 36 42.03	. .
	O. Arg. S. 423	5	49.3	51.4	52.7	2.7	3.8	4.9	6.2	7.3	17.6	18.8	20.9	41 5.05	0.11	2.07	0 41 3.09	11.25
	Weisse 775	6	49.2	51.3	52.4	2.1	3.0	4.3	5.3	6.6	16.2	17.3	19.3	45 4.27	0.09	2.08	0 45 2.28	11.51
	* + 3° 18′	7	13.3	15.3	16.6	26.0	27.0	28.2	29.5	30.6	40.0	41.2	43.3	46 28.27	0.09	2.08	0 46 26.28	11.51
	Weisse 928	8	42.8	44.7	46.0	55.5	56.6	57.9	58.8	0.0	9.7	10.8	12.8	53 57.78	0.09	2.08	0 53 55.79	11.54
	ϵ Piscium	9	47.2	49.2	50.6	0.1	1.1	2.3	3.5	4.6	14.3	15.5	17.5	56 2.35	0.08	2.08	0 56 0.35	11.55
	Weisse 1041	10	21.9	24.0	25.2	34.7	35.6	36.8	38.0	39.0	48.6	49.8	51.9	59 36.86	+ 0.09	2.08	0 59 34.87	11.46
	Weisse 1054	11	14.3	15.3	16.5	17.6	18.7	. .	46.9	49.3	50.4	51.7	52.8	0 33.35	— 16.72	2.08	1 0 14.55	11.47
	Polaris	†12	. .	. .	. .	. .	18.0	8.0	57.0	39.0	14.0	59.0	22.0	15 13.86	— 4 2.00	2.09	1 11 9.77	11.02
	η Piscium	†13	6.6	8.6	9.8	19.8	20.8	21.9	23.1	24.1	34.1	35.3	37.7	24 21.98	+ 0.08	2.10	1 24 19.96	11.86
Tr.	α Leonis	14	59.4	1.4	2.7	12.3	13.3	14.5	15.8	16.9	26.8	28.0	30.1	1 14.66	0.08	2.32	10 1 12.42	+ 14.41
	Venus II	15	34.2	36.2	37.5	47.1	48.4	49.5	50.7	51 9	1.6	3.0	5.1	4 49.56	+ 0.08	2.33	10 4 47.31	— 0.47
	γ Leonis	†16	. .	. .	. .	33.0	34.0	35.4	36.5	37.7	48.0	49.2	51.2	12 40.63	— 5.20	2.33	10 12 33.10	+ 15.05
	Mercury II	17	14.8	16.8	18.2	27.6	28.6	29.8	31.0	32.1	41.6	43.0	44.9	17 29.85	+ 0.08	2.36	11 17 27.57	— 0.20
27	Sun I	18	31.5	33.5	34.9	44.2	45.4	46.7	47.9	49.0	58.5	59.7	1.9	15 46.65	0.08	2.39	12 15 44.34	. .
	Sun II	19	40.3	42.1	43.6	53.0	54.0	55.2	56.3	57.4	7.1	8.2	10.3	17 55.23	0.08	2.39	12 17 52.92	. .
	Polaris, S. P.	†20	33.0	. .	11.0	47.0	5.0	. .	. .	.	1.3	. .	29.0	10 31.33	40.03	2.42	1 11 8.94	+ 10.86
	α Virginis	21	53.8	55.9	57.0	6.7	7.7	8.9	10.2	11.2	21.1	22.3	24.4	18 9.02	0.08	2.42	13 18 6.68	14.17
	α Bootis	22	17.8	19.8	21.4	31.3	32.4	33.6	34.8	35.9	46.3	47.6	49.9	9 33.71	0.09	2.45	14 9 31.35	12.64
	γ^2 Sagittarii	23	56.5	58.7	0.3	11.2	12.3	13.8	15.2	16.5	27.5	28.8	31.3	57 13.83	0.09	2.56	17 57 11.36	16.08
	μ Sagittarii	24	31.0	33.0	34.4	44.5	45.6	46.9	48.2	49.3	59.6	0.9	3.0	5 46.95	0.08	2.56	18 5 44.47	+ 14.93
	Moon I	25	54.7	56.8	58.2	8.3	9.5	10.8	12.2	13.3	23.9	25.0	27.2	11 10.90	0.08	2.56	18 11 8.42	. .
	δ Ursæ Minoris	26	. .	. .	. .	58.5	16.2	36.5	56.0	15.5	. .	. .	. .	15 36.54	+ 2.30	2.56	18 15 36.28	— 80.30
	51 Cephei, S. P.	27	49.0	9.0	42.0	27.0	6.0	41.0	17.0	55.0	34.0	11.5	29.0	36 40.05	— 1.87	2.57	6 36 35.61	+ 128.56
	24 Sagittarii	28	27.9	29.9	31.4	41.8	42.9	44.2	45.5	46.6	57.3	58.6	0.9	25 44.27	+ 0.08	2.57	18 25 41.78	15.18
	1 Aquilæ	29	41.9	43.9	45.3	54.7	55.7	57.0	58.2	59.3	9.0	10.1	12.2	27 57.03	+ 0.08	2.57	18 27 54.54	13.47
	O. Arg. S. 18913	30	. .	. .	. .	30.3	31.5	32.8	34.2	35.2	45.4	46.7	49.0	51 38.14	— 5.18	2.58	18 51 30.38	14.49
	Lalande 35497	31	35.0	36.5	37.7	38.9	41.4	. .	45.1	47.7	49.0	50.4	51.8	55 13.35	— 0.16	2.58	18 55 10.61	14.46
	Lalande 35499	32	1.0	3.1	4.4	14.4	15.5	16.7	18.0	19.1	29.3	30.6	32.7	55 16.80	+ 0.08	2.58	18 55 14.30	14.45
	* — 18° 57′	33	4.0	6.1	7.4	17.4	18.6	19.8	21.0	22.1	32.4	33.7	35.8	59 19.85	+ 0.08	2.58	18 59 17.35	14.38
	* — 18° 57′	34	. .	. .	. .	46.9	48.0	49.3	50.6	51.6	1.9	3.1	5.2	59 54.57	— 5.16	2.58	18 59 46.83	14.38
	O. Arg. S. 19256	35	21.6	23.7	25.1	35.3	36.4	37.7	39.0	40.1	50.6	51.9	54.1	5 37.77	+ 0.08	2.59	19 5 35.26	14.75
	d Sagittarii	36	33.9	36.0	37.5	47.5	48.5	49.8	51.0	52.1	2.4	3.5	5.8	9 49.82	0.08	2.59	19 9 47.31	14.32
	Weisse 506	37	36.9	38.9	40.0	49.7	50.8	51.9	53.1	54.2	3.9	5.1	7.2	22 51.97	+ 0.08	2.65	21 22 49.40	12.45
	Weisse 543	38	. .	. .	. .	19.3	20.3	21.5	22.6	23.8	33.6	34.6	36.8	24 26.56	— 4.94	2.65	21 24 18.97	12.45
	Weisse 623	39	5.2	7.2	8.4	18.0	19.0	20.3	21.4	22.4	. .	. .	. .	27 15.24	+ 5.12	2.65	21 27 17.71	12.39
	Weisse 628	40	. .	. .	. .	29.1	30.0	31.3	32.4	33.6	43.3	44.5	46.6	27 36.35	— 4.93	2.66	21 27 28.76	12.39
	* — 8° 44′	41	. .	. .	. .	51.8	52.8	54.9	10.3	12.8	14.0	15.1	16.5	28 6.03	26.23	2.66	21 27 37.14	12.39
	O. Arg. S. 21550	42	. .	. .	. .	27.9	29.0	30.2	31.6	32.7	43.0	44.2	46.5	32 35.64	— 5.22	2.66	21 32 27.76	13.15
	ϵ Pegasi	43	24.3	26.4	27.7	37.2	38.3	39.5	40.7	41.8	51.5	52.7	54.7	37 39.53	+ 0.08	2.66	21 37 36.95	11.17
	* — 12° 17′	44	53.4	55.6	56.8	6.7	7.7	9.0	10.2	11.4	21.6	22.7	24.7	40 9.07	0.08	2.66	21 40 6.49	12.53
	* — 12° 22′	45	37.7	40.0	41.2	51.2	52.3	53.5	54.8	55.9	5.9	7.2	9.2	42 53.54	0.08	2.66	21 42 50.96	12.51
	Weisse 1106	46	36.5	38.7	40.0	49.7	50.7	51.9	53.1	54.2	4.0	5.3	7.3	47 51.95	0.08	2.67	21 47 49.36	12.49
	* — 12° 38′	47	47.0	48.8	50.2	59.9	0.9	2.2	3.4	4.6	14.4	15.7	17.7	53 2.25	0.08	2.67	21 52 59.66	12.45
	O. Arg. S. 21896	48	49.2	51.3	52.7	2.7	3.8	5.0	6.4	7.4	17.8	19.1	21.2	0 5.15	0.08	2.67	22 0 2.56	12.82
	O. Arg. S. 21972	49	46.0	47.4	48.8	49.9	52.6	. .	. .	. .	. .	. .	. .	4 48.94	+ 35.92	— 2.67	22 5 22.19	+ 12.87

12. Unsteady.
13. Unsteady.
16. Unsteady.
20. Cloudy.

September 26–27. By P. S. P. and P., n. = + 0.01 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 27, 18.5	— 2.57	— 0.029	+ 0.08

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduction to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 27 Tr.	O. Arg. S. 21980	1	15.8	18.0	19.4	29.7	30.6	31.9	33.2	34.4	45.8	46.0	48.2	5 32.09	+ 0.08	— 2.67	22 5 29.50	+ 12.87
	O. Arg. S. 21987	2	..	..	..	0.1	1.2	3.6	19.9	22.3	23.7	25.2	26.7	6 15.34	— 27.99	2.67	22 5 44.68	12.86
	O. Arg. S. 22002	3	..	..	..	42.2	43.4	44.7	45.9	47.1	57.6	58.8	1.0	6 50.09	5.27	2.67	22 6 42.15	12.85
	O. Arg. S. 22022	4	..	..	..	16.9	17.9	19.1	20.6	21.8	32.1	33.4	35.7	8 24.69	— 5.26	2.68	22 8 16.75	12.83
	θ Aquarii	5	33.5	35.5	36.9	46.4	47.5	48.7	50.0	51.0	0.7	1.8	3.9	9 48.72	+ 0.08	2.68	22 9 46.12	12.13
	* — 22° 20′	6	25.3	27.5	28.8	..	..	..	..	..	54.3	55.5	57.8	13 41.53	0.04	2.68	22 13 38.89	12.78
	O. Arg. S. 22087	7	..	..	..	46.6	47.8	49.0	50.3	51.5	..	..	..	13 49.04	0.13	2.68	22 13 46.49	12.78
	O. Arg S. 22092	8	59.8	1.8	3.1	13.3	14.5	15.8	17.0	18.2	28.6	29.8	32.2	14 15.83	0.08	2.68	22 14 13.23	12.78
	O. Arg. S. 22123	9	40.7	42.9	44.2	54.5	55.6	56.9	58.2	59.4	9.7	11.0	13.2	16 56.94	+ 0.08	2.68	22 16 54.34	12.75
	O. Arg. S. 22132	10	..	..	..	16.4	17.6	18.9	20.2	21.4	31.8	33.0	35.1	18 24.30	— 5.28	2.68	22 18 16.34	12.73
	O. Arg. S. 22165	11	..	..	..	..	..	..	18.6	21.2	22.7	24.1	25.6	21 22.44	— 37.98	2.68	22 20 41.78	12.94
	O. Arg. S. 22177	12	40.3	42.5	43.8	54.7	55.8	57.2	58.5	59.6	..	..	..	21 51.55	+ 5.72	2.68	22 21 54.59	12.97
	O. Arg. S. 22181	13	1.9	4.1	5.6	16.2	17.4	18.9	20.2	21.4	32.4	33.7	36.0	22 18.80	0.08	2.68	22 22 16.20	12.96
	* — 28° 15′	14	55.3	57.6	58.7	8.8	9.8	11.1	12.4	13.7	23.8	25.0	27.0	26 11.20	0.08	2.68	22 26 8.60	12.92
	ζ Pegasi	15	35.0	36.9	38.3	47.9	49.0	50.2	51.5	52.6	2.3	3.4	5.4	34 50.23	0.08	2.69	22 34 47.62	11.13
	O. Arg. S. 22374	16	53.1	55.2	56.7	6.9	8.0	9.3	10.5	11.9	22.4	23.9	26.0	37 9.45	+ 0.08	2.69	22 37 6.84	12.60
	O. Arg. S. 22391	17	..	..	..	22.4	23.7	24.9	26.3	27.4	38.0	39.3	41.6	38 30.45	— 5.37	2.69	22 38 22.39	12.59
	O. Arg. S. 22450	18	27.7	29.9	31.3	41.6	42.7	44.1	45.4	46.6	57.4	58.2	0.3	44 44.10	+ 0.08	2.69	22 44 41.49	12.52
	O. Arg. S. 22466	19	54.1	56.1	57.6	7.8	9.0	10.3	11.7	12.9	23.5	24.8	27.0	46 10.44	0.08	2.69	22 46 7.83	12.50
	O. Arg. S. 22487	20	41.3	43.4	44.9	55.4	56.5	57.9	59.2	0.3	11.0	12.2	14.4	47 57.86	+ 0.08	2.69	22 47 55.25	12.48
	O. Arg. S. 22499	21	..	..	..	1.1	2.3	3.5	5.0	6.1	16.6	17.8	20.1	49 9.06	— 5.37	2.70	22 49 0.99	12.45
	O. Arg. S. 22508	22	50.8	53.0	54.3	4.8	5.8	7.2	8.5	9.7	20.2	21.5	23.8	50 7.24	+ 0.08	2.70	22 50 4.62	12.45
	Juno	23	44.7	46.5	48.0	57.5	58.5	59.6	0.9	1.9	11.6	12.8	14.9	54 59.72	0.08	2.70	22 54 57.10	..
	* + 14° 22′	24	20.0	22.1	23.4	33.2	34.2	35.4	36.6	37.7	..	..	..	57 30.33	5.23	2.70	22 57 32.86	11.00
	α Pegasi	25	53.4	55.4	56.8	6.5	7.6	8.7	9.9	11.1	21.1	22.2	24.4	58 8.74	0.08	2.70	22 58 6.12	11.00
	* + 54° 11′	26	28.1	30.6	32.8	34.6	38.5	3.9	7.4	9.5	..	..	..	19 45.67	44.06	2.71	23 20 27.02	8.61
	* + 54° 5′	27	..	..	..	40.8	42.7	44.6	46.6	48.4	..	..	..	20 44.62	+ 0.23	2.71	23 20 42.14	8.62
	Radcliffe 6081	28	..	..	..	57.6	59.0	1.2	3.3	5.2	21.5	23.5	27.1	21 9.80	— 8.30	2.71	23 20 58.79	8.63
	* + 54° 10′	29	..	..	..	16.5	18.2	20.2	22.2	24.0	..	..	..	22 20.22	+ 0.23	2.71	23 22 17.74	8.61
	* + 54° 0′	30	..	..	..	..	..	..	14.6	18.8	21.0	23.1	25.4	23 20.58	— 57.08	2.71	23 22 20.79	8.66
	ι Piscium	31	52.0	54.1	55.3	4.8	5.8	7.0	8.2	9.3	19.0	20.1	22.2	33 7.07	+ 0.08	2.72	23 33 4.43	11.48
	Astræa	32	..	..	..	..	..	..	22.2	24.4	25.8	27.4	28.7	35 25.70	— 33.87	2.72	23 34 49.11	..
	Neptune	33	23.9	25.9	27.2	36.6	37.7	38.9	40.0	41.1	50.7	52.0	54.0	36 38.91	+ 0.08	2.75	0 36 36.24	..
	* + 2° 25′	34	50.3	52.3	53.5	3.1	4.1	5.2	6.5	7.6	17.0	18.3	20.3	38 5.29	0.08	2.75	0 38 2.62	11.48
	* + 2° 15′	35	13.2	14.7	15.8	17.0	19.4	..	..	..	..	..	..	40 16.02	33.31	2.75	0 39 45.46	11.48
	* + 2° 12′	36	41.6	43.5	44.8	54.2	55.3	56.5	57.7	58.8	8.4	9.5	11.5	40 56.53	+ 0.08	2.75	0 40 53.86	11.48
	Weisse 956	37	57.4	59.5	0.8	..	11.2	12.4	13.5	14.6	24.4	25.6	27.6	55 12.70	— 0.14	2.76	0 55 9.80	11.56
	ε Piscium	38	48.2	50.0	51.3	0.8	1.8	3.0	4.1	5.2	.	16.0	18.2	56 1.86	+ 1.27	2.76	0 56 0.37	11.54
	Polaris	39	46.0	38.0	25.0	17.0	49.0	..	..	..	..	..	..	48 35.00	22 37.03	2.75	1 11 9.28	10.71
Y.	α Leonis	40	0.0	1.9	3.4	13.0	14.0	15.3	16.4	17.6	27.4	28.6	30.7	1 15.30	0.08	2.88	10 1 12.50	+ 14.39
	Venus II	41	14.1	16.1	17.6	27.1	28.2	29.4	30.6	31.6	41.5	42.7	44.8	9 29.43	+ 0.08	2.88	10 9 26.63	— 0.47
	δ Leonis	42	57.3	58.4	59.5	0.8	2.0	..	32.2	34.6	35.9	37.3	38.8	7 17.68	— 17.94	2.90	11 6 56.84	+ 14.72
	Mercury II	43	47.6	49.4	50.8	0.4	1.4	2.7	3.9	4.9	14.6	15.8	17.8	23 2.66	+ 0.08	2.91	11 22 59.83	— 0.20
28	Sun I	44	..	..	..	21.5	22.6	23.8	25.0	26.0	..	..	..	19 23.78	0.13	2.93	12 19 20.98	..
	Sun II	45	17.2	19.2	20.5	30.5	31.0	32.2	33.3	34.3	44.0	45.2	47.3	21 32.20	0.08	2.93	12 21 29.35	..
	Polaris, S. P.	†46	..	..	..	47.0	5.0	17.0	28.0	47.0	12.0	23.0	3.5	7 52.81	3 18.18	2.94	1 11 8.05	+ 10.59
	α Virginis	†47	54.2	56.2	57.5	7.1	8.1	9.4	10.6	11.7	21.4	22.6	24.8	18 9.42	+ 0.08	2.95	13 18 6.55	14.17
	α Bootis	48	31.6	32.7	34.1	35.3	36.6	..	6.3	8.7	10.0	11.5	12.9	9 51.97	— 17.77	2.96	14 9 31.24	+ 12.65
	Moon I	49	38.5	40.6	42.0	52.3	53.3	54.5	55.8	57.0	7.4	8.7	10.8	6 54.63	+ 0.08	— 3.06	19 6 51.65	..

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 28, 18.5	— 3.05	— 0.020	+ 0.08

46. Faint.
47. Faint.

September 27–28. By P. S. P. and P., n. = + 0.01 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.	
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.	
1865. Sept. 28 Y.	O. Arg. S. 19674	1	9.4	11.5	12.9	23.1	24.3	25.5	26.7	27.9	38.5	39.6	41.8	24 25.56	+ 0.08	— 3.07	19 24 22.57	+ 14.64	
κ	Aquilæ	2	28.6	30.7	32.0	41.6	42.6	43.8	45.0	46.0	55.6	56.7	59.0	29 43.78	0.08	3.07	19 29 40.79	13.04	
e^2	Sagittarii	3	38.5	40.5	41.8	51.5	52.6	53.8	55.1	56.3	6.3	7.5	9.6	34 53.95	0.08	3.07	19 34 50.96	13.88	
f	Sagittarii	4	19.4	21.5	22.8	33.6	34.0	35.3	36.5	37.7	47.9	49.1	51.3	38 35.32	0.08	3.07	19 38 32.33	14.21	
	(* 119) W.	5	34.4	38.3	40.6	58.7	0.6	2.9	5.2	7.2	25.7	27.8	31.8	42 3.02	0.18	3.08	19 42 0.12	3.43	
57	Aquilæ, (1st *)	6	10.1	12.2	13.5	23.0	24.6	25.3	26.5	27.6	37.2	38.4	40.4	47 25.29	+ 0.08	3.08	19 47 22.29	13.05	
57	Aquilæ, (2d *)	7	49.2	50.8	51.9	53.1	55.5	..	56.0	58.7	59.9	1.2	2.6	47 25.89	— 0.15	3.08	19 47 22.66	13.05	
	Weisse 1236	8	31.3	33.3	34.7	44.0	45.2	46.3	47.6	48.6	58.1	59.3	1.4	49 46.35	+ 0.08	3.08	19 49 43.35	12.13	
	Dorpat 2601, (Nd.)	9	..	..	..	..	18.4	19.6	21.7	36.7	39.2	40.4	41.8	43.0	50 32.60	— 25.94	3.08	19 50 3.58	12.12
	Dorpat 2612, (1st *)	10	38.0	39.7	41.0	50.6	51.6	52.7	54.0	55.0	4.8	5.9	8.0	54 52.85	+ 0.08	3.08	19 54 49.85	11.65	
	Dorpat 2612, (2d *)	11	18.8	20.1	21.3	22.6	24.8	..	25.3	27.8	29.0	30.4	31.6	54 55.17	— 0.15	3.08	19 54 51.94	11.65	
	Dorpat 2615	12	44.5	46.4	47.7	57.3	58.3	59.6	0.7	1.7	11.5	12.6	14.7	56 59.55	+ 0.08	3.08	19 56 56.55	+ 11.51	
λ	Ursæ Minoris	13	..	..	..	..	..	..	37.0	46.0	52.0	1.0	10.0	28 41.20	—29 34.32	3.09	19 59 3.79	— 281.89	
	Weisse 1512	14	51.6	53.7	55.0	4.6	5.7	7.0	8.2	9.2	19.3	20.5	22.6	1 7.04	+ 0.08	3.08	20 1 4.04	+ 13.51	
	O. Arg. S. 20294	15	22.3	24.4	25.6	35.6	36.7	38.0	39.3	40.3	50.5	51.7	53.8	3 38.02	+ 0.08	3.08	20 3 35.02	13.82	
	Weisse 506	16	..	..	..	..	..	..	22.8	25.5	26.7	27.9	29.2	23 26.42	— 34.00	3.11	21 22 49.31	12.46	
	Weisse 543	17	6.8	8.6	10.0	19.5	20.5	21.6	22.9	24.1	33.9	35.0	37.0	24 21.81	+ 0.08	3.11	21 24 18.78	12.46	
	Weisse 623	18	44.3	45.7	46.9	48.2	50.4	..	51.3	53.7	54.8	56.1	57.4	27 20.88	— 0.15	3.11	21 27 17.62	12.40	
	Weisse 628	19	55.3	56.5	37.9	59.2	1.7	..	2.1	4.8	6.0	7.3	8.6	27 31.94	— 0.15	3.11	21 27 28.68	12.40	
e	Pegasi	20	24.9	26.8	28.1	37.7	38.8	40.0	41.1	42.3	51.9	53.2	55.3	37 40.01	+ 0.08	3.11	21 37 36.98	11.18	
	Weisse 1037	21	12.2	14.2	15.4	24.8	25.8	27.0	28.2	29.3	38.9	40.1	42.1	44 27.09	0.08	3.12	21 44 24.05	11.61	
	Weisse 1106	22	37.2	39.2	40.4	50.0	51.1	52.4	53.6	54.8	4.5	5.6	7.7	47 52.41	0.08	3.12	21 47 49.37	12.50	
	O. Arg. N. 23362	23	59.7	2.9	4.9	20.7	22.2	24.2	26.2	27.9	44.0	45.9	49.3	0 24.35	0.15	3.12	22 0 21.38	6.78	
	O. Arg. N. 23452	24	8.8	12.0	14.1	29.5	31.2	33.3	35.0	36.9	52.8	54.7	58.1	2 33.31	+ 0.15	3.12	22 2 30.34	6.88	
	Weisse 129	25	..	..	..	..	..	..	8.8	11.3	12.6	13.8	15.2	8 12.34	— 33.62	3.12	22 7 35.60	11.61	
	Weisse 153	26	33.8	35.9	37.1	46.6	47.6	48.8	49.9	51.0	0.7	1.8	3.9	8 48.83	+ 0.08	3.12	22 8 45.79	11.61	
π	Aquarii	27	..	..	..	..	..	..	59.8	2.3	3.6	4.8	6.2	19 3.34	— 33.57	3.12	22 18 26.65	11.60	
	Lacaille 9139	28	..	..	..	..	..	..	1.7	4.8	6.3	7.9	9.6	22 6.06	— 42.45	3.13	22 21 20.48	13.52	
	O. Arg. S. 22237	29	12.6	14.8	16.0	26.2	27.2	28.5	29.8	30.8	41.2	42.5	44.6	27 28.56	+ 0.08	3.13	22 27 25.51	12.55	
	B. A. C. 7898	30	1.0	3.3	4.6	15.3	16.4	17.8	19.0	20.3	31.0	32.5	34.8	33 17.82	0.08	3.13	22 33 14.77	12.80	
	O. Arg. N. 24533	31	48.3	51.3	53.7	9.4	11.3	13.2	15.2	17.2	32.4	35.2	39.0	36 13.29	0.15	3.13	22 36 10.31	7.46	
g^2	Aquarii	32	8.6	10.8	12.1	22.3	23.3	24.6	25.9	26.9	37.3	38.4	40.7	40 24.63	0.08	3.13	22 40 21.58	12.40	
	O. Arg. S. 22436	33	30.6	32.8	34.0	44.3	45.3	46.5	47.8	49.0	59.3	0.5	2.5	42 46.60	0.08	3.13	22 42 43.55	12.40	
λ	Aquarii	34	25.9	27.9	29.1	38.7	39.7	41.0	42.1	43.2	52.8	54.2	56.2	45 40.98	0.08	3.14	22 45 37.92	11.87	
	Juno	35	12.0	14.1	15.3	24.8	25.9	27.1	28.2	29.1	39.0	40.1	42.2	54 27.07	+ 0.08	3.14	22 54 24.01	..	
	Weisse 1136	36	..	..	..	49.3	50.3	51.5	52.7	53.8	3.5	4.7	6.7	54 56.56	— 4.92	3.14	22 54 48.50	11.82	
	Lacaille 66	37	25.5	27.7	29.2	40.3	41.5	42.9	44.0	45.4	..	..	..	16 37.06	+ 5.88	3.17	0 16 39.77	11.34	
	Lacaille 94	38	..	..	..	17.8	19.0	20.5	21.8	23.0	34.7	36.2	38.5	21 26.44	— 5.87	3.17	0 21 17.40	11.22	
	B. A. C. 138, (1st *)	39	28.2	30.2	31.5	40.9	41.8	43.0	44.2	45.1	54.9	56.1	58.1	27 43.09	+ 0.08	3.17	0 27 40.00	11.44	
	B. A. C. 138, (2d *)	40	..	..	..	..	..	..	14.4	16.8	18.0	19.4	20.7	28 17.86	— 33.71	3.17	0 27 40.98	11.44	
	Neptune	41	18.4	20.3	21.4	30.9	31.8	33.0	34.3	35.3	45.0	46.1	48.0	36 33.14	+ 0.08	3.17	0 36 30.05	..	
	O. Arg. S. 423	42	50.5	52.5	53.9	3.9	5.0	6.2	7.4	8.6	18.8	20.0	22.1	41 6.26	+ 0.09	3.17	0 41 3.18	11.24	
	O. Arg. S. 492	43	45.8	47.2	48.6	50.0	52.3	..	55.6	58.2	59.5	0.9	2.4	47 24.05	— 0.15	3.18	0 47 20.72	11.19	
	O. Arg. S. 498	44	55.0	56.4	57.8	58.9	..	..	..	7.4	8.6	10.2	11.5	47 33.23	— 0.16	3.18	0 47 29.89	11.19	
	Weisse 917	45	1.4	3.6	4.7	14.2	15.3	16.3	17.4	18.5	28.4	29.5	31.4	53 16.43	+ 0.08	3.18	0 53 13.33	11.52	
	Weisse 928	46	43.9	45.9	47.3	56.7	57.7	59.1	0.1	1.2	10.8	12.0	14.0	53 58.97	0.08	3.18	0 53 55.87	11.52	
ε	Piscium	47	48.5	50.3	51.6	1.0	2.0	3.4	4.5	5.7	15.2	16.5	18.7	56 3.40	0.08	3.18	0 56 0.30	11.53	
	Polaris	48	58.5	18.0	11.0	35.0	17.0	6.5	56.0	38.5	..	..	..	7 45.06	3 26.65	3.18	1 11 8.53	10.47	
	Weisse 255	49	37.0	38.9	40.4	50.0	51.0	52.0	53.3	54.3	4.1	5.1	7.1	16 52.11	0.08	3.19	1 16 49.00	11.62	
	Weisse 269	50	14.5	16.5	17.7	27.3	28.2	29.4	30.6	31.7	41.4	42.5	44.6	17 29.49	+ 0.08	— 3.19	1 17 26.38	+ 11.62	

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 28, 18.5	— 3.05	— 0.020	+ 0.08

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 28	Weisse 328	1	10.0	12.1	13.5	23.0	23.9	25.3	26.4	27.5	37.1	38.2	40.3	20 25.21	+ 0.08	— 3.19	1 20 22.10	+ 11.64
Y.	ν Piscium	2	16.6	18.5	19.7	29.3	30.3	31.5	32.6	33.6	43.4	44.6	46.5	34 31.51	0.08	3.19	1 34 28.40	11.64
E.	α Leonis	3	0.5	2.5	3.8	13.5	14.5	15.7	16.8	17.9	27.8	29.1	31.1	1 15.74	0.11	3.41	10 1 12.44	14.37
	γ Leonis	4	20.2	22.5	23.9	34.0	35.2	36.4	37.6	38.8	49.0	50.3	52.5	12 36.40	0.14	3.41	10 12 33.13	+ 15.01
	Venus II	5	53.5	55.6	56.9	6.3	7.4	8.8	10.0	11.0	21.0	22.1	24.3	14 8.81	0.11	3.41	10 14 5.51	— 0.47
	δ Leonis	6	44.2	46.1	47.5	57.7	58.7	0.0	1.2	2.2	13.0	14.0	16.2	7 0.07	0.14	3.42	11 6 56.79	+ 14.79
	Mercury II	†7	32.7	34.9	36.1	45.7	46.7	48.0	49.0	50.2	59.9	0.9	3.1	28 47.93	+ 0.09	3.42	11 28 44.60	— 0.20
	β Leonis	8	..	..	..	27.2	28.2	30.3	46.0	48.6	49.7	51.1	52.7	42 41.73	— 26.85	3.43	11 42 11.45	+ 14.08
29	Sun I	9	46.3	48.0	49.4	59.0	0.0	1.3	2.5	3.5	13.0	14.3	16.1	23 1.22	+ 0.07	3.43	12 22 57.86	..
	Sun II	10	54.8	56.5	57.7	7.6	8.6	9.6	10.8	12.0	..	..	..	25 4.70	+ 5.07	3.43	12 25 6.34	..
	Polaris, S. P.	†11	..	..	..	51.0	11.0	21.0	37.0	52.0	..	..	..	11 22.40	— 10.83	3.44	1 11 8.13	10.36
	α Virginis	12	54.8	56.8	58.3	7.8	8.9	10.0	11.1	12.2	22.2	23.3	25.3	18 10.06	+ 0.06	3.44	13 18 6.68	14.17
	α Bootis	13	18.8	20.9	22.1	32.2	33.3	34.6	35.9	36.9	..	..	..	9 29.34	5.44	3.45	14 9 31.33	12.65
	ϵ Bootis	14	52.9	55.2	56.6	7.2	8.3	9.6	11.0	12.1	23.1	24.4	..	39 8.04	1.87	3.46	14 39 6.45	12.24
	α Coronæ Borealis	15	46.0	48.2	49.7	0.2	1.3	2.7	4.0	5.1	16.1	17.4	19.6	29 2.75	0.16	3.46	15 28 59.45	11.65
	β Scorpii	16	25.3	27.4	28.9	38.8	39.9	41.1	42.4	43.5	53.9	55.0	57.3	57 41.23	0.04	3.47	15 57 37.80	15.09
	α Scorpii	17	57.3	59.5	0.9	11.5	12.6	13.9	15.3	16.5	27.3	28.4	30.7	21 13.99	+ 0.02	3.47	16 21 10.54	15.78
	63 Sagittarii	18	..	..	..	20.5	21.7	23.7	39.0	41.5	42.8	44.1	45.4	54 34.84	— 26.76	3.51	19 54 4.57	+ 13.52
	λ Ursæ Minoris	19	45.0	22.0	33.0	52.0	43.0	44.0	45.0	40.0	..	..	..	54 25.50	+ 4 34.20	3.51	19 58 56.19	— 280.58
	Moon I	20	15.7	17.3	18.8	29.0	30.1	31.2	32.7	33.8	44.0	45.2	47.4	3 31.38	0.05	3.51	20 3 27.92	..
	α^1 Capricorni	21	1.2	3.1	4.5	14.2	15.1	16.4	17.6	18.8	..	..	..	10 11.36	5.16	3.51	20 10 13.01	+ 13.30
	α^2 Capricorni	22	25.1	27.0	28.4	38.3	39.3	40.4	41.6	42.8	52.6	53.8	55.9	10 40.48	0.05	3.51	20 10 37.02	13.29
	π Capricorni	23	26.6	28.6	30.0	40.0	41.0	42.3	43.5	44.7	54.7	56.0	58.2	19 42.33	0.04	3.51	20 19 8.86	13.71
	ζ Cygni	24	1.0	3.4	4.8	15.7	16.9	18.3	19.6	20.8	32.0	33.2	35.6	7 18.30	0.17	3.52	21 7 14.95	9.40
	* — 23° 15′	25	23.1	25.3	26.7	36.7	37.7	39.3	40.7	41.7	51.8	53.2	55.4	14 39.24	0.03	3.52	21 14 35.75	13.55
	B. A. C. 7413	26	6.8	8.9	10.2	20.5	21.7	22.8	24.1	25.4	35.8	37.1	39.3	15 22.96	0.03	3.52	21 15 19.47	13.55
	* — 23° 4′	27	16.2	18.5	19.7	29.9	30.8	32.5	33.8	35.0	45.3	46.8	48.7	18 32.47	+ 0.03	3.52	21 18 28.98	13.50
	ζ Capricorni	28	2.0	3.1	4.3	5.6	6.8	..	37.4	39.8	41.2	42.6	44.1	19 22.69	— 18.22	3.52	21 19 0.95	13.50
	O. Arg. S. 21438	29	15.2	16.5	18.0	19.0	21.5	..	25.6	27.9	29.5	30.8	32.2	23 53.62	— 0.21	3.52	21 23 49.89	13.21
	O. Arg. S. 21442	30	41.8	43.9	45.2	55.2	56.3	57.6	58.8	59.9	10.3	11.4	13.7	23 57.65	+ 0.03	3.52	21 23 54.16	13.20
	O. Arg. S. 21480	31	0.9	2.9	4.4	14.2	15.2	16.4	17.7	18.7	28.8	30.0	32.0	27 16.47	+ 0.04	3.52	21 27 12.99	12.85
	* — 20° 28′	32	..	..	..	..	..	..	21.8	24.4	25.6	27.0	28.5	28 25.46	— 35.88	3.52	21 27 46.06	13.20
	O. Arg. S. 21550	33	15.3	17.4	18.6	28.9	29.9	31.2	32.5	33.5	43.9	45.1	47.4	32 31.25	+ 0.03	3.52	21 32 27.76	13.18
	Weisse 933	34	17.1	19.0	20.5	..	30.9	32.4	33.5	34.5	44.4	45.6	47.9	39 32.58	— 0.18	3.53	21 39 28.87	12.55
	Weisse 962	35	27.9	29.0	30.1	31.2	32.4	..	0.6	2.8	4.1	5.2	6.6	40 46.99	— 16.73	3.53	21 40 26.73	11.65
	Weisse 1037	36	12.5	14.5	15.7	25.1	26.1	27.4	28.5	29.6	39.3	40.5	42.5	44 27.43	+ 0.09	3.53	21 44 23.99	11.61
	* — 7° 10′	37	..	..	..	8.1	9.4	11.6	26.8	29.1	30.5	31.7	33.1	46 22.54	— 26.15	3.53	21 45 52.86	12.20
	Weisse 1106	38	37.6	39.6	40.8	50.6	51.6	52.8	54.0	55.0	4.9	6.1	8.2	47 52.84	+ 0.05	3.53	21 47 49.36	12.51
	* + 52° 58′	39	24.5	27.7	29.7	45.5	47.5	49.3	51.3	53.0	8.8	11.0	14.1	0 49.31	+ 0.34	3.53	22 0 46.12	6.80
	O. Arg. N. 23385	40	8.8	11.1	13.2	15.2	19.0	..	58.7	2.7	4.8	7.0	9.1	1 8.96	— 0.04	3.53	22 1 5.39	6.81
	O. Arg. N. 23452	41	..	..	..	53.0	54.6	58.3	23.1	26.8	29.0	31.0	33.4	3 16.15	42.50	3.53	22 2 30.12	6.90
	Weisse 360	42	29.5	31.4	32.5	42.2	43.0	44.4	45.6	46.7	56.3	57.5	59.5	17 44.42	— 0.09	3.53	22 17 40.98	11.50
	Weisse 602	43	23.2	25.3	26.6	36.4	37.4	38.5	39.5	40.5	50.4	51.6	53.9	29 38.48	+ 0.05	3.53	22 29 35.00	12.14
	Weisse 619	44	58.7	0.7	2.2	11.9	13.0	14.0	15.1	16.2	25.9	27.2	29.2	30 14.01	+ 0.05	3.53	22 30 10.53	12.14
	W. Z. 54, 17	45	58.2	59.3	0.6	1.8	2.9	..	34.4	37.3	38.7	40.3	41.6	31 19.51	— 18.93	3.53	22 30 57.05	12.84
	ζ Pegasi	46	35.9	37.9	39.1	48.8	49.9	51.0	52.2	53.2	3.0	4.3	6.3	34 51.05	+ 0.11	3.54	22 34 47.62	11.14
	O. Arg. S. 22373	47	54.0	56.3	57.6	8.4	9.5	11.0	12.3	13.3	24.0	25.2	27.6	37 10.84	0.02	3.54	22 37 7.32	12.72
	Juno	48	40.7	42.8	44.1	53.4	54.5	55.7	56.8	57.9	7.8	9.0	10.9	53 55.78	+ 0.06	3.54	22 53 52.30	..
	Lalande 45028	49	..	..	..	8.6	9.8	11.9	27.2	29.4	30.5	31.9	33.2	55 22.81	— 26.02	3.54	22 54 53.25	11.72
	* — 4° 31′	50	12.7	13.8	14.9	16.3	17.3	..	45.1	47.6	48.7	50.2	51.4	55 31.80	— 16.78	— 3.54	22 55 11.48	+ 11.72

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 29, 17.1	— 3.48	— 0.010	+ 0.08

7. Unsteady.
11. Very unsteady.

September 28–29. By P S. P., P., and P. S. P., n. = + 0.014 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Sept. 29	Weisse 1223 . .	1	21.6	23.3	24.7	34.1	35.4	36.7	38.0	39.1	48.6	49.7	51.8	58 36.64	+ 0.07	— 3.54	22 58 33.17	+ 11.72
E.	Weisse 1248 . .	2	35.0	36.6	38.0	47.4	48.5	49.6	50.8	51.9	1.6	2.8	4.8	59 49.73	+ 0.07	3.54	22 59 46.26	11.71
	ι Piscium . . .	3	5.6	6.7	7.8	9.1	10.1	. .	38.1	40.6	41.7	43.1	44.6	33 24.74	— 16.77	3.55	23 33 4.42	11.48
	Lalande 46609 . .	4	35.0	37.1	38.4	48.0	48.8	50.1	51.1	52.3	2.0	3.1	5.3	40 50.11	+ 0.07	3.55	23 40 46.63	11.57
	Weisse 845 . . .	5	. .	. .	. .	51.6	52.7	53.9	55.0	56.1	5.5	6.8	8.8	41 58.80	— 4.88	3.55	23 41 50.37	11.48
	21 Piscium	6	25.1	27.2	28.3	37.8	38.8	39.9	41.1	42.2	51.9	53.2	55.2	42 40.06	+ 0.08	3.55	23 42 36.59	11.48
	Weisse 895 . .	7	. .	. .	. .	54.4	55.4	56.5	57.6	58.8	8.5	9.6	11.7	45 1.56	— 4.92	3.55	23 44 53.09	11.57
	Weisse 1002 . .	8	30.0	31.9	33.0	42.6	43.5	44.8	45.9	47.0	56.7	57.8	59.9	49 44.83	+ 0.08	3.55	23 49 41.36	11.47
	Weisse 1186 . .	9	27.4	29.3	30.5	40.1	41.0	42.4	43.5	44.5	54.0	55.2	57.3	57 42.29	+ 0.08	3.55	23 57 38.82	11.45
	Weisse 1209 . .	10	. .	. .	. .	25.9	26.9	28.4	29.5	30.5	40.0	41.4	43.3	59 33.24	— 4.88	3.55	23 59 24.81	11.48
	Lalande 205 . .	11	53.9	56.0	57.3	6.6	7.7	8.8	10.1	11.2	20.8	22.0	24.1	9 8.96	+ 0.09	3.55	0 9 5.50	11.44
	Weisse 247 . .	12	55.5	57.5	58.7	8.2	9.2	10.4	11.7	12.7	22.5	23.6	25.7	15 7.07	0.10	3.55	0 15 7.07	11.43
	Weisse 302 . .	13	36.9	38.8	40.1	49.5	50.5	51.7	53.0	54.0	3.7	5.0	7.0	18 51.84	0.10	3.55	0 18 48.39	11.44
	Weisse 358 . .	14	18.0	20.0	21.3	30.6	31.5	32.7	34.2	35.4	45.0	46.1	48.2	22 33.00	+ 0.10	3.55	0 22 29.55	11.44
	Weisse 453 . .	15	. .	. .	. .	25.9	27.1	28.3	29.5	30.5	40.3	41.4	43.6	27 33.33	— 4.90	3.55	0 27 24.88	11.46
	Weisse 506 . .	16	16.0	18.1	19.4	28.8	29.8	31.0	32.2	33.3	42.9	44.2	46.1	30 31.07	+ 0.09	3.55	0 30 27.61	11.46
	Weisse 511 . .	17	. .	. .	. .	10.3	11.5	13.0	14.1	15.1	24.8	25.9	27.9	31 17.83	— 4.88	3.55	0 31 9.40	11.46
	Neptune . . .	18	12.5	14.4	15.7	25.2	26.1	27.4	28.6	29.6	39.1	40.2	42.4	36 27.38	+ 0.08	3.56	0 36 23.90	. .
	* + 2° 28′ . .	19	50.9	52.8	54.0	3.7	4.8	5.9	7.2	8.3	17.9	19.0	21.0	38 5.95	+ 0.09	3.56	0 38 2.48	11.47
	δ Piscium . . .	20	46.1	47.0	48.3	49.7	50.8	. .	18.6	21.2	22.4	23.7	25.1	42 5.29	— 16.82	3.56	0 41 44.91	11.50
	Weisse 733 . .	21	56.7	58.7	0.0	9.4	10.4	11.7	12.9	14.0	23.6	24.8	26.8	43 11.73	+ 0.10	3.56	0 43 8.27	11.51
	Weisse 836 . .	22	42.4	44.5	48.7	55.1	56.2	57.4	58.4	59.5	9.2	10.4	12.4	48 57.38	0.07	3.56	0 48 53.89	11.40
	Weisse 928 . .	23	44.5	46.4	47.7	57.1	58.2	59.5	0.5	1.6	11.4	12.6	14.5	53 59.45	0.09	3.56	0 53 55.98	11.51
	ε Piscium . . .	24	48.7	50.8	52.1	1.6	2.6	3.7	5.0	6.0	15.7	17.0	19.0	56 3.84	0.10	3.56	0 56 0.38	11.53
	Polaris	†25	. .	. .	. .	30.0	18.0	0.0	50.0	34.0	. .	. .	. .	11 2.40	10.83	3.56	1 11 9.67	10.29
	θ Ceti	26	8.6	10.6	11.9	21.5	22.6	23.7	25.0	26.0	35.4	36.8	38.8	17 23.72	+ 0.06	3.56	1 17 20.22	11.23
	* + 6° 15′ . .	27	. .	. .	. .	10.0	11.1	12.2	13.3	14.4	24.1	25.2	27.4	21 17.21	— 4.89	3.56	1 21 8.76	11.62
	* + 5° 28′ . .	28	59.1	1.2	2.4	12.0	13.0	14.3	15.5	16.5	26.0	27.3	29.3	23 14.24	+ 0.09	3.56	1 23 10.77	11.62
	α Leonis . . .	29	0.6	2.7	4.2	13.7	14.7	15.8	17.2	18.3	27.9	29.2	31.3	1 15.96	0.11	3.62	10 1 12.45	14.35
Tr.	γ Leonis	30	20.8	22.8	24.0	34.2	35.3	36.5	37.9	39.1	49.3	50.6	52.8	12 36.66	0.14	3.62	10 12 33.18	+ 14.99
	Venus II . . .	31	32.0	34.0	35.4	45.1	46.1	47.4	48.6	49.8	59.4	0.7	2.8	18 47.39	0.11	3.63	10 12 46.87	— 0.47
	δ Leonis . . .	32	44.2	46.3	47.8	58.0	59.0	0.2	1.5	2.8	13.1	14.4	16.6	7 0.36	0.14	3.64	11 7 56.86	+ 14.69
	Mercury II . . .	33	27.4	29.5	30.9	40.3	41.4	42.5	43.7	44.9	54.4	55.7	57.7	34 42.58	0.09	3.65	11 34 39.02	— 0.19
30	Sun I	34	23.6	25.5	26.7	36.2	37.4	38.6	39.7	40.8	50.5	51.8	53.8	26 38.60	0.07	3.66	12 26 35.01	. .
	Sun II	35	32.4	34.1	35.5	45.0	46.1	47.3	48.5	49.5	59.3	0.4	2.5	28 47.33	+ 0.07	3.66	12 28 43.74	. .
	Polaris, S. P. .	†36	28.0	12.0	22.0	54.0	13.0	26.0	36.0	55.0	25.0	36.0	16.0	11 23.91	— 8.96	3.67	1 11 11.28	+ 10.23
	α Virginis . . .	37	55.1	56.9	58.3	8.0	9.0	10.1	11.5	12.6	22.3	23.5	25.7	18 10.27	+ 0.06	3.67	13 18 6.66	14.17
	η Bootis	38	4.3	6.4	7.6	17.7	18.6	19.9	21.2	22.3	32.5	33.9	36.0	48 20.04	0.14	3.68	13 48 16.50	13.23
	α Bootis	39	18.9	21.1	22.4	32.5	33.5	34.8	36.0	37.2	47.2	48.5	50.8	9 34.81	0.14	3.68	14 9 31.27	12.66
	α Coronæ Borealis .	40	46.1	48.4	49.8	0.3	1.5	2.9	4.3	5.4	16.2	17.5	19.8	29 2.93	0.16	3.70	15 28 59.39	11.66
Oct. 1	β Aquarii	41	19.8	21.7	23.1	32.5	33.5	34.7	35.8	37.0	46.7	48.0	50.0	24 34.80	0.07	4.28	21 24 30.59	12.28
	ξ Aquarii	42	26.5	28.4	29.8	39.3	40.3	41.5	42.8	43.9	53.6	54.7	56.8	30 41.60	0.06	4.29	21 30 37.37	12.41
	Moon I	43	19.6	21.6	23.0	32.8	33.8	35.0	36.3	37.4	47.2	48.5	50.7	58 35.08	0.06	4.30	21 58 30.84	. .
	θ Aquarii	44	35.3	37.3	38.4	48.0	49.1	50.2	51.4	52.5	2.4	3.6	5.6	9 50.35	0.06	4.30	22 9 46.11	12.16
	σ Aquarii	45	22.7	24.7	26.0	35.6	36.6	37.8	39.1	40.1	49.9	51.2	53.3	23 37.91	0.05	4.30	22 23 33.66	12.23
E.	α Leonis	46	1.4	3.5	4.7	14.5	15.5	16.7	17.9	19.0	28.8	. .	32.3	1 15.43	1.44	4.43		+ 14.31
	Venus II . . .	†47	26.6	28.0	29.4	30.6	32.9	. .	1.1	2.2	3.2	4.4	5.7	27 46.41	17.07	4.44	10 27 59.04	— 0.46
2	α Bootis	48	19.8	22.0	23.3	33.3	34.4	35.7	37.0	38.0	48.3	49.4	51.6	9 35.71	+ 0.14	4.52	14 9 31.33	+ 12.67
	α Coronæ Borealis .	49	. .	. .	. .	17.0	18.3	20.7	37.7	40.3	41.8	43.3	44.8	29 32.99	— 29.07	— 4.55	15 28 59.37	+ 11.69

25. Unsteady.
36. Unsteady.
47. Through clouds.

s.
September 29–30, n. = + 0.14.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Sept. 30, 12.6	— 3.66	— 0.014	+ 0.08
Oct. 1, 21.7	4.29	0.018	
2, 20.6	— 4.66	— 0.022	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 2 E.	A Capricorni	1	..	7.5	8.8	19.3	20.5	21.8	23.1	24.4	35.0	36.1	..	59 21.83	+ 0.03	— 4.67	20 59 17.19	+ 13.96
	ζ Cygni	2	2.1	4.4	5.9	16.9	17.9	19.3	20.6	21.8	33.1	34.3	36.6	7 19.35	0.17	4.67	21 7 14.85	9.45
	O. Arg. S. 21286	3	46.5	48.8	50.1	1.2	2.2	3.6	5.0	6.2	17.2	18.4	21.0	11 3.65	0.01	4.67	21 10 58.99	14.13
	* — 24° 30′	4	23.8	25.9	27.2	37.5	38.7	40.0	41.2	42.4	52.9	54.1	56.4	24 40.01	0.02	4.68	21 24 35.35	13.76
	O. Arg. S. 21480	5	2.1	4.1	5.4	15.2	16.4	17.7	18.9	19.9	29.8	30.9	33.2	27 17.60	0.04	4.68	21 27 12.96	12.88
	B. A. C. 7550	6	32.6	34.7	35.9	46.0	47.1	48.5	49.7	50.7	1.0	2.4	4.5	35 48.46	0.03	4.68	21 35 43.81	13.13
	Weisse 933	7	18.1	20.2	21.5	31.0	32.2	33.4	34.6	35.8	45.7	46.8	48.9	39 33.47	0.05	4.68	21 39 28.84	12.58
	Weisse 962	8	..	18.3	19.7	29.0	30.1	31.2	32.4	33.4	43.2	44.4	..	40 31.30	0.09	4.68	21 40 26.71	11.66
	Weisse 1002	9	41.6	43.5	44.9	54.5	55.5	56.8	57.9	59.0	9.0	10.1	12.3	42 56.83	0.05	4.68	21 42 52.20	12.55
	Weisse 1085	10	22.8	24.1	25.4	26.6	29.0	44.1	45.9	47.2	..	..	..	46 33.14	+ 23.96	4.69	21 46 54.41	12.22
	Weisse 1037	11	..	..	..	21.6	22.9	25.1	40.6	42.9	44.3	45.6	47.0	47 36.25	— 26.54	4.69	21 47 5.02	12.56
	* — 11° 59′	12	..	..	..	27.6	28.8	30.8	..	48.6	50.0	51.4	53.0	47 41.46	— 25.92	4.69	21 47 10.85	12.50
	α Aquarii	13	44.3	46.0	47.4	56.9	57.9	59.1	0.4	1.4	10.9	12.1	14.3	58 59.15	+ 0.08	4.69	21 58 54.54	11.79
	O. Arg. S. 21903	14	3.5	5.5	6.5	17.4	18.4	19.6	21.3	22.7	33.1	34.2	36.7	0 19.94	0.02	4.69	22 0 15.27	13.17
	Weisse 331	15	28.3	29.5	30.8	32.1	34.5	..	..	..	..	..	..	16 31.04	33.97	4.70	22 17 0.31	12.26
	Weisse 346	16	52.4	53.6	54.9	56.2	58.6	..	..	..	..	..	..	16 55.14	33.96	4.70	22 17 24.40	12.26
	Weisse 360	17	30.5	32.5	33.8	43.3	44.4	45.5	46.7	47.8	57.3	58.6	0.5	17 45.54	0.09	4.70	22 17 40.93	11.52
	W. Z. 54, 17	18	45.0	47.1	48.6	59.4	0.5	1.8	3.1	4.4	15.3	16.6	18.9	31 1.88	0.02	4.70	22 30 57.20	12.36
	B. A. C. 7898	19	2.6	4.8	6.2	16.9	18.1	19.4	20.7	22.0	32.7	34.1	36.5	33 19.45	0.02	4.70	22 33 14.77	12.83
	O. Arg. S. 22373	20	55.4	57.5	58.8	9.4	10.8	12.2	13.4	14.6	25.4	26.6	29.0	37 12.10	0.02	4.70	22 37 7.42	12.74
	λ Aquarii	21	27.5	29.5	30.8	40.4	41.4	42.4	43.7	44.8	54.4	55.6	57.7	45 42.56	0.06	4.71	22 45 37.91	11.90
	78 Aquarii	22	25.6	27.6	28.8	38.4	39.5	40.6	41.7	42.9	52.7	53.8	55.8	47 40.67	0.06	4.71	22 47 36.02	11.88
	Juno	23	14.3	16.3	17.6	27.0	28.1	29.3	30.6	31.6	41.2	42.4	44.5	52 29.39	0.06	4.71	22 52 24.74	..
	Lalande 45028	24	..	..	..	55.8	56.9	58.0	59.3	0.3	..	..	..	54 58.06	0.02	4.71	22 54 53.47	11.73
	Moon I	25	47.1	49.1	..	0.1	1.1	2.2	3.5	4.6	..	15.7	17.7	57 2.34	0.08	4.71	22 56 57.71	..
	γ Piscium	26	3.7	5.5	6.9	16.4	17.4	18.5	19.8	20.8	30.4	31.5	33.5	10 18.58	0.09	4.72	23 10 13.95	11.65
	ι Piscium	27	59.2	56.1	57.3	6.8	7.9	9.0	10.1	11.1	20.8	22.1	24.3	33 9.06	0.09	4.73	23 33 4.42	11.48
	Weisse 895	28	42.7	44.5	45.9	55.3	56.4	57.6	58.9	0.1	9.8	11.0	13.0	44 57.75	0.07	4.73	23 44 53.09	11.56
	* — 5° 46′	29	12.4	14.5	15.9	25.1	26.2	27.2	28.5	29.6	39.4	40.6	42.4	47 27.44	0.07	4.73	23 47 22.78	11.55
	Weisse 1153	30	2.0	4.3	5.3	14.8	15.8	17.0	18.2	19.2	28.8	29.9	32.0	58 17.03	0.08	4.73	23 58 12.38	11.47
	Weisse 1209	31	17.5	19.5	20.8	30.3	31.4	32.5	33.7	34.7	44.5	45.5	47.6	59 32.55	0.08	4.73	23 59 27.90	11.47
	Santini 1	32	20.3	22.4	23.5	33.0	34.1	35.2	36.2	37.3	47.0	48.3	50.2	1 35.23	0.09	4.74	0 1 30.58	11.43
	Weisse 10	33	..	..	..	40.4	41.5	42.5	43.7	44.8	..	..	..	2 42.58	0.13	4.74	0 2 37.97	11.44
	γ Pegasi	34	10.6	12.5	13.8	23.7	24.6	25.7	26.9	28.1	38.1	39.4	41.4	6 25.89	0.12	4.74	0 6 21.27	11.29
	Weisse 247	35	56.8	58.8	0.1	9.5	10.6	11.8	13.0	14.1	23.6	24.7	26.9	15 11.81	0.10	4.74	0 15 7.17	11.42
	Weisse 302	36	38.0	40.1	41.4	50.9	51.9	53.0	54.2	55.4	5.0	6.1	8.2	18 53.11	0.10	4.74	0 18 48.47	11.42
	Santini 30	37	51.9	53.8	55.0	4.4	5.5	6.7	7.9	9.0	18.5	19.8	21.8	27 6.75	0.09	4.74	0 27 2.10	11.44
	Weisse 466	38	53.4	55.7	57.0	6.4	7.5	8.7	9.9	11.0	20.4	21.5	23.6	28 8.65	+ 0.09	4.74	0 28 4.00	11.44
	Weisse 477	39	38.5	39.5	40.5	41.8	42.9	..	11.0	13.4	14.7	16.0	17.2	29 57.55	— 16.74	4.75	0 29 36.06	11.44
	Weisse 571	40	54.7	56.6	58.0	7.5	8.5	9.7	10.7	11.9	..	..	..	34 4.70	+ 5.09	4.75	0 34 5.04	11.45
	Neptune	41	55.2	57.3	58.6	8.0	9.0	..	11.5	12.5	22.3	23.3	25.4	36 10.31	0.08	4.75	0 36 5.64	..
	* + 2° 28′	42	52.3	54.5	55.5	4.8	5.9	7.1	8.3	9.4	19.1	20.2	22.3	38 7.20	0.09	4.75	0 38 2.54	11.45
	Weisse 694	43	36.2	38.3	39.5	49.0	50.0	51.1	52.3	53.3	2.9	4.1	6.1	40 51.16	0.09	4.75	0 40 46.50	11.45
	* + 2° 10′	44	43.7	45.5	46.6	56.2	57.2	58.3	59.5	0.6	10.4	11.5	13.5	40 58.45	0.09	4.75	0 40 53.79	11.45
	Weisse 749	45	48.9	50.8	52.2	1.6	2.7	3.8	5.0	6.1	16.0	17.0	19.0	44 3.92	0.10	4.75	0 43 59.27	11.49
	Weisse 935	46	4.3	6.1	7.4	17.0	18.1	19.3	20.5	21.5	31.2	32.4	34.4	54 19.29	0.07	4.75	0 54 14.61	11.35
	ε Piscium	47	50.0	52.0	53.3	2.9	3.9	5.1	6.2	7.3	17.0	18.1	20.1	56 5.08	0.10	4.75	0 56 0.43	11.50
	Weisse 13	48	48.2	50.1	51.5	1.1	2.1	3.4	4.6	5.7	15.6	16.7	18.9	3 3.45	0.11	4.76	1 2 58.80	11.61
	* + 12° 19′	†49	..	..	..	26.9	27.9	29.2	30.3	31.5	..	..	..	5 29.16	0.16	4.76	1 5 24.56	11.63
	Polaris	50	..	..	..	35.0	22.0	8.0	55.0	39.0	..	..	..	11 7.80	+ 10.84	— 4.76	..	+ 9.99

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s
Oct. 2, 10.1	— 4.98	— 0.022	+ 0.08

49. Faint.

r.

October 3, 21h. Image east 0.31. Clamp east.
Image west 0.07. Clamp west.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 2		Lalande 2410	1	. .	.	. .	36.5	37.6	38.6	39.8	40.9	. .	. .	. .	13 38.68	+ 0.16	— 4.76	1 13 34.08	+ 11.69
E.	θ	Ceti	2	9.9	11.8	13.0	22.6	23.7	24.9	26.3	27.4	37.0	38.1	40.2	17 24.99	0.06	4.76	1 17 20.29	11.20
Y.	α	Leonis	3	2.1	4.1	5.5	15.0	16.1	17.4	18.5	19.6	29.5	30.8	32.9	1 17.41	0.11	4.98		14.29
	γ	Leonis	4	22.1	24.0	25.5	35.6	36.8	38.1	39.2	40.2	50.7	51.9	54.2	12 38.03	+ 0.14	4.98		+ 14.93
		Mercury II	5	32.8	34.4	35.6	36.8	39.0	. .	39.4	41.7	43.0	44.5	45.7	53 9.29	— 0.14	5.02	11 53 4.13	— 0.18
4	γ	Leonis	6	0.3	1.5	3.0	4.4	7.0	23.2	25.4	26.6	36.9	38.0	39.3	12 18.69	+ 20.39	5.92		+ 14.89
		Venus II	7	39.1	41.2	42.4	52.3	53.4	54.6	55.8	56.8	6.4	7.7	9.7	41 54.49	— 0.12	5.92	10 41 48.45	— 0.45
5		Sun I	8	48.0	49.3	50.5	51.7	52.6	. .	30.3	32.7	33.9	35.1	36.5	45 17.06	16.84	5.92	12 44 54.30	. .
		Sun II	9	44.3	46.5	47.5	57.3	58.4	59.5	0.7	1.8	11.2	12.4	14.5	46 59.46	0.12	5.92	12 46 53.42	. .
		Polaris, S. P.	10	0.5	4.5	10.0	18.0	41.5	. .	. .	. .	. .	. .	. .	34 2.80	—22 48.22	5.93	1 11 8.65	+ 9.59
	α	Bootis	11	21.3	23.5	24.8	35.0	36.2	37.5	38.7	. .	49.7	51.1	. .	9 35.31	+ 1.91	5.93	14 9 31.29	12.69
	α	Serpentis	12	29.7	31.7	32.9	42.6	43.7	44.9	. .	. .	56.6	57.9	59.9	37 44.43	+ 0.27	5.93	15 37 38.77	+ 13.17
	ϵ	Ursæ Minoris	13	59.2	14.3	23.0	34.5	42.5	51.2	0.2	7.6	17.6	27.0	41.7	59 50.80	— 0.82	5.93	16 59 44.05	— 20.89
	α	Herculis	14	21.9	24.1	25.2	35.2	36.3	37.5	38.7	39.8	49.5	50.9	52.9	8 37.45	0.12	5.93	17 8 31.40	+ 11.88
	λ	Aquarii	†15	28.9	30.9	31.9	41.8	42.9	44.1	45.2	46.4	55.9	57.1	59.1	45 44.02	0.12	5.94	22 45 37.96	11.92
		Juno	16	0.3	2.3	3.5	13.4	14.3	15.5	16.7	17.7	. .	28.6	30.6	51 15.49	0.13	5.94	22 51 9.42	. .
		Lalande 45028	17	44.3	46.3	47.5	57.2	58.2	59.4	0.7	1.7	11.2	12.4	14.4	54 59.39	0.12	5.94	22 54 53.33	11.74
		* — 4° 32′	18	. .	. .	. .	29.2	30.5	32.5	47.4	49.7	50.9	52.2	53.6	55 43.25	25.90	5.94	22 55 11.41	11.74
		Weisse 1223	19	24.0	26.0	27.1	. .	. .	. .	. .	. .	51.0	52.1	54.0	58 39.03	0.08	5.95	22 58 33.00	11.74
		Weisse 1248	20	37.2	39.3	40.4	50.1	51.1	52.3	53.4	54.4	4.0	5.2	7.3	59 52.25	0.12	5.95	22 59 46.18	11.73
		* — 20° 27′	21	52.1	54.2	55.4	5.8	6.9	8.1	9.5	10.5	20.4	21.9	23.9	7 8.06	0.13	5.95	23 7 1.98	12.14
	γ	Piscium	22	5.0	7.1	8.2	17.9	18.9	20.1	21.3	22.3	31.7	33.0	35.1	10 20.06	0.12	5.95	23 10 13.99	11.66
		O. Arg. S. 22766	23	12.6	15.0	16.2	26.5	27.8	29.0	30.3	31.2	41.5	42.7	45.0	13 28.89	0.12	5.95	23 13 22.82	12.08
		Weisse 386	24	49.0	51.1	52.1	1.8	3.0	4.1	5.3	6.3	16.0	17.0	19.0	20 4.06	0.12	5.95	23 19 57.99	+ 11.49
		B. A. C. 8213	25	. .	. .	. .	50.5	9.0	29.0	48.5	4.5	. .	. .	. .	28 28.30	2.61	5.95	23 28 19.74	— 28.63
		O. Arg. S. 22993	26	38.0	40.3	41.5	51.9	53.0	54.3	55.6	56.7	6.7	8.0	10.1	34 54.19	0.13	5.95	23 34 48.11	+ 11.84
	δ	Sculptoris	27	46.0	48.5	49.6	0.5	1.7	3.2	4.5	5.8	16.5	18.0	20.1	42 3.13	0.14	5.95	23 41 57.04	11.89
		Weisse 895	28	44.1	46.2	47.3	56.9	58.0	59.1	0.4	1.5	10.9	12.3	14.3	44 59.18	0.12	5.95	23 44 53.11	11.57
		Weisse 936	29	. .	. .	. .	36.2	37.2	38.4	39.6	40.7	50.0	51.3	53.4	46 43.35	5.13	5.95	23 46 32.27	11.55
		Lacaille 9663	30	31.0	33.5	34.9	46.7	47.9	49.4	50.7	52.0	3.5	5.0	7.3	50 49.26	0.15	5.95	23 50 43.16	11.73
		O. Arg. S. 23166	31	21.2	23.5	24.7	35.0	36.1	37.5	38.6	39.8	50.0	51.3	53.3	52 37.36	0.13	5.95	23 52 31.28	11.65
		O. Arg. S. 23206	32	55.2	57.3	58.5	9.0	10.2	11.4	12.6	13.7	23.7	25.3	27.2	56 11.27	0.13	5.95	23 56 5.19	11.61
		O. Arg. N. 26423	33	50.4	54.0	55.9	12.0	13.7	15.4	17.8	19.2	35.0	37.3	40.5	1 15.57	0.19	5.95	0 1 9.43	9.96
		O. Arg. N. 14	34	. .	. .	. .	50.1	51.9	53.6	55.6	57.4	. .	. .	. .	1 53.72	0.27	5.95	0 1 47.50	9.97
	γ	Pegasi	35	11.8	14.0	15.3	25.2	26.2	27.5	28.6	29.7	39.5	40.7	42.8	6 27.39	0.12	5.95	0 6 21.32	11.29
		Neptune	36	38.4	40.4	41.5	51.1	52.1	53.3	54.5	55.7	5.0	6.3	8.4	35 53.34	0.12	5.95	0 35 47.27	. .
		O. Arg. S. 423	37	53.4	55.7	56.9	7.1	8.1	9.4	10.6	11.7	21.6	23.0	25.0	41 9.32	0.13	5.95	0 41 3.24	11.19
		* + 7° 17′	38	. .	. .	. .	. .	. .	. .	14.7	17.1	18.5	19.7	21.1	43 18.22	— 33.58	5.95	0 42 38.69	11.47
		O. Arg. S. 492	39	48.5	49.8	51.2	52.5	54.9	. .	58.3	0.9	2.3	3.5	4.7	47 26.66	+ 0.11	5.95	0 47 20.82	11.14
		O. Arg. S. 498	40	20.0	22.1	23.4	33.6	34.8	36.1	37.3	38.4	48.4	49.7	51.5	47 35.94	— 0.13	5.95	0 47 29.86	11.13
		Weisse 935	41	5.7	7.7	8.9	18.3	19.5	20.7	22.0	23.0	32.4	33.7	35.7	54 20.69	0.12	5.95	0 54 14.62	11.33
25		Ceti	42	7.5	9.8	11.0	20.6	21.7	23.0	24.0	25.0	34.6	35.8	37.9	56 22.81	0.12	5.95	0 56 16.74	11.33
	ζ	Piscium, (1st *)	43	35.8	37.9	39.0	48.7	49.8	51.0	52.3	53.2	2.8	3.9	5.9	6 50.94	— 0.12	5.95	1 6 44.87	11.53
	ζ	Piscium, (2d *)	44	15.5	17.0	18.4	19.5	21.8	. .	22.4	24.9	25.9	27.3	28.4	6 52.11	+ 0.11	5.95	1 6 46.27	11.53
		Polaris	45	. .	. .	. .	49.0	34.0	21.0	10.5	51.0	. .	. .	. .	11 21.10	— 6.36	5.95	1 11 8.79	9.48
		* + 5° 43′	46	. .	. .	. .	53.1	54.1	55.3	56.4	57.4	6.9	8.2	10.2	16 0.20	5.13	5.95	1 15 49.12	11.54
		Weisse 255	47	39.9	42.1	43.1	52.9	54.0	55.2	56.3	57.4	6.9	8.2	10.2	16 55.11	0.12	5.95	1 16 49.04	11.54
		Weisse 269	48	. .	19.5	20.7	30.2	31.3	32.5	33.8	34.8	44.3	45.6	47.7	17 34.04	1.63	5.95	1 17 26.46	11.55
		Weisse 328	49	13.1	15.1	16.2	26.2	27.2	28.4	29.5	30.5	40.0	41.3	43.2	20 28.25	— 0.12	— 5.95	1 20 22.18	+ 11.57

15. Blurred.

October 4–5. By P. S. P. and P., n. $= +0.^{s}01$.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Oct. 5, 20.7	— 5.94	— 0.002	— 0.12

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 5	Weisse 402	1	14.9	16.9	18.1	27.7	28.7	29.9	31.3	32.3	41.8	42.9	45.1	24 29.96	— 0.12	— 5.95	1 24 23.89	+ 11.26
Y.	Lacaille 458	2	..	..	..	52.7	53.9	55.2	56.7	57.8	8.6	10.1	12.4	29 0.93	5.94	5.95	1 28 49.04	10.29
	Lacaille 462	3	46.1	48.5	49.8	1.0	2.2	3.5	4.8	6.1	17.3	18.8	21.0	30 3.55	0.15	5.95	1 29 57.45	10.28
	ν Piscium	4	19.5	21.5	22.8	32.3	33.3	34.5	35.7	36.8	46.3	47.7	49.4	34 34.53	0.12	5.95	1 34 28.46	11.56
	o Piscium	5	11.0	13.0	14.3	23.8	24.9	26.3	27.6	28.6	38.0	39.4	41.3	38 26.20	0.12	5.95	1 38 20.13	11.71
	Weisse 772	6	54.5	56.7	57.7	7.5	8.5	9.7	10.8	12.0	21.5	22.8	24.7	44 9.67	0.12	5.95	1 44 3.60	11.70
	Weisse 780	7	..	..	..	36.7	38.0	39.8	55.3	57.5	58.8	59.9	1.3	44 50.90	26.06	5.95	1 44 18.89	11.69
	Weisse 820	8	..	..	..	..	..	..	0.9	3.3	4.5	5.6	6.9	47 4.24	33.75	5.95	1 46 24.54	11.75
	Moon II	9	37.1	39.3	40.4	50.6	51.7	52.9	54.0	55.2	5.0	6.4	8.6	0 52.84	0.12	5.95	2 0 46.77	..
	ξ^1 Ceti	10	45.6	47.8	49.1	58.8	59.8	1.0	2.2	3.3	12.6	14.0	16.0	6 0.93	0.12	5.95	2 5 54.86	11.79
E.	γ Leonis	11	23.4	25.5	26.9	37.1	38.3	39.3	40.5	41.7	52.1	53.1	55.4	12 39.39	0.12	6.05	10 12 33.22	+ 14.37
	Venus II	12	15.1	17.3	18.4	28.4	29.4	30.5	31.7	32.7	42.3	43.5	45.6	46 30.45	0.12	6.05	10 46 24.28	— 0.45
	δ Leonis	†13	47.1	49.1	50.3	0.7	1.8	3.0	4.3	5.4	15.7	17.0	19.0	7 3.04	0.13	6.05	11 6 56.86	+ 14.60
	β Leonis	14	2.2	4.4	5.5	15.6	16.8	17.9	19.1	20.2	30.0	31.2	33.3	42 17.84	0.12	6.06	11 42 11.66	+ 14.01
	Mercury II	15	5.9	7.7	9.2	18.8	19.9	21.0	22.1	23.2	32.7	33.9	36.0	12 20.95	0.12	6.06	12 12 14.77	— 0.17
6	α Ophiuchi	16	32.9	35.0	36.2	45.9	47.0	48.3	49.5	50.6	0.2	1.6	3.5	28 48.25	0.13	6.08	17 28 42.04	+ 11.98
	λ Ursæ Minoris	17	..	..	..	9.0	1.0	2.0	8.5	0.5	..	..	..	59 4.20	6.12	6.09	19 58 51.99	— 272.09
	O. Arg. S. 20294	18	25.2	27.5	28.7	38.9	40.0	41.2	42.5	43.5	53.4	54.8	56.9	3 41.15	0.17	6.09	20 3 34.89	+ 13.95
	O. Arg. S. 20320.	19	27.4	29.4	30.6	40.8	41.8	43.0	44.3	45.5	55.4	56.6	58.7	5 43.05	0.17	6.09	20 5 36.79	13.84
	* — 17° 17′	20	..	..	..	0.3	1.6	3.7	19.2	21.8	23.0	24.2	25.5	6 14.91	27.08	6.09	20 5 41.74	13.84
	α^2 Capricorni	21	27.8	29.8	31.1	40.9	41.9	43.2	44.4	45.5	55.3	56.5	58.6	10 43.18	0.16	6.09	20 10 36.93	13.41
	O. Arg. S. 20428	22	7.9	10.0	11.3	21.4	22.5	23.6	25.0	26.0	36.1	37.4	39.5	13 23.70	— 0.17	6.09	20 13 17.44	13.75
	O. Arg. S. 20442	23	30.0	31.9	33.2	43.0	44.1	45.2	46.5	47.5	..	..	..	14 40.17	+ 4.99	6.09	20 14 39.07	13.65
	* — 16° 2′	24	54.4	56.7	57.9	7.9	9.0	10.2	11.5	12.5	22.4	23.6	25.6	15 10.15	— 0.17	6.09	20 15 3.89	13.65
	B. A. C. 7063	25	2.1	3.4	4.8	6.0	8.6	..	10.9	13.4	14.5	15.7	17.0	13 39.64	+ 0.08	6.09	20 13 33.63	13.52
	* — 15° 30′	26	39.4	41.2	42.5	43.7	46.2	..	48.4	50.9	52.1	53.4	54.6	24 17.24	+ 0.08	6.09	20 24 11.23	13.51
	O. Arg. S. 20660	27	42.9	45.2	46.5	56.9	58.2	59.4	0.6	1.6	11.9	13.2	15.9	29 59.26	— 0.18	6.09	20 29 52.99	14.13
	O. Arg. S. 21162	28	..	..	..	19.7	20.9	22.0	23.4	24.5	34.6	36.0	38.1	2 27.40	5.60	6.09	21 2 15.71	13.75
	* — 23° 52′	29	..	..	..	57.9	59.2	0.3	1.9	3.0	13.5	14.8	16.8	3 5.93	5.63	6.09	21 2 54.21	13.84
	* — 23° 40′	30	..	..	..	..	..	..	27.9	30.3	31.6	33.0	34.4	4 31.44	36.42	6.09	21 3 48.93	13.81
	O. Arg. S. 21219	31	31.7	33.9	35.2	45.8	46.8	48.1	49.5	50.5	0.9	2.4	4.4	5 48.11	0.18	6.09	21 5 41.84	13.76
	ζ Cygni	32	3.6	6.1	7.2	18.5	19.6	21.0	22.4	23.5	34.4	36.0	38.3	7 20.96	0.12	6.09	21 7 14.75	9.52
	B. A. C. 7490	33	9.5	11.7	13.0	23.4	24.5	25.8	27.0	28.2	38.2	39.5	41.5	27 25.66	0.18	6.09	21 27 19.39	13.31
	O. Arg. N. 23385	34	..	..	..	8.0	9.6	11.8	13.6	15.5	..	..	..	1 11.70	0.22	6.10	22 1 5.38	6.94
	Weisse 113	35	52.1	54.1	55.3	4.7	5.9	7.0	8.1	9.1	18.7	19.9	22.0	7 6.99	0.14	6.10	22 7 0.75	11.71
	Weisse 163	36	37.1	39.1	40.2	49.7	50.8	52.0	53.2	54.2	3.7	5.1	7.0	8 52.01	0.14	6.10	22 8 45.77	11.68
	Weisse 346	37	53.6	55.6	56.6	6.6	8.0	9.1	10.2	11.3	20.9	22.2	24.2	17 8.94	0.16	6.10	22 17 2.68	12.30
	π Aquarii	38	17.8	19.8	21.0	30.6	31.7	32.9	34.0	35.0	44.5	45.7	47.9	18 32.81	0.14	6.10	22 18 26.57	11.67
	Lacaille 9139	39	..	..	..	24.0	25.3	26.5	28.3	29.6	41.4	43.0	45.5	21 32.95	6.53	6.10	22 21 20.32	13.60
	O. Arg. N. 24533	40	50.8	54.5	56.4	12.6	14.4	16.0	18.5	20.0	35.8	37.8	41.3	36 16.19	0.14	6.10	22 36 9.94	7.57
	O. Arg. N. 24553	41	0.9	2.8	4.7	6.5	8.2	..	55.0	58.9	0.9	2.8	5.0	37 32.57	28.17	6.10	22 36 58.30	7.60
	ξ^2 Aquarii	42	25.6	26.7	27.8	29.0	30.2	..	59.6	2.2	3.4	4.6	6.0	40 45.51	17.89	6.10	22 40 21.52	12.45
	λ Aquarii	43	29.0	31.0	32.3	42.0	43.2	44.3	45.6	46.7	56.0	57.4	59.4	45 44.26	0.15	6.10	22 45 38.01	11.92
	Juno	44	38.5	40.5	41.7	51.5	52.6	53.8	54.9	56.0	5.5	6.8	8.8	50 53.69	— 0.15	6.10	22 50 47.44	..
	Weisse 571	45	34.7	36.2	37.4	38.7	41.0	..	..	..	..	..	..	33 37.60	+ 33.58	6.11	0 34 5.07	11.43
	Neptune	46	32.4	34.3	35.5	45.2	46.3	47.5	48.8	49.8	59.0	0.3	2.4	35 47.43	— 0.14	6.11	0 35 41.18	..
	β Ceti	47	42.8	45.0	46.3	56.5	57.5	59.0	0.0	1.0	11.1	12.5	14.5	36 58.74	0.17	6.11	0 36 52.46	11.28
	* + 2° 28′	48	54.0	56.0	57.1	6.7	7.7	9.0	10.2	11.2	20.5	22.0	23.9	38 8.94	0.14	6.11	0 38 2.69	11.43
	δ Piscium	49	49.0	50.0	51.2	52.5	53.5	..	21.3	23.5	24.8	25.8	27.4	42 7.90	16.87	6.11	0 42 44.92	11.46
	Weisse 733	50	59.4	1.4	2.6	12.4	13.5	14.6	15.7	16.7	26.4	27.6	29.7	43 14.55	— 0.13	— 6.11	0 43 8.31	+ 11.46

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Oct. 6, 20.4	— 6.09	— 0.004	— 0.14

13. Unsteady.

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 6		Weisse 836	1	45.3	47.1	48.4	58.0	59.0	0.3	1.4	2.5	12.0	13.3	15.4	49 0.25	— 0.14	— 6.11	0 48 54.00	+ 11.39
E.		Weisse 935	2	6.0	8.1	9.2	18.8	20.0	21.0	22.2	23.2	32.8	34.2	36.0	54 21.05	0.13	6.11	0 54 14.81	11.33
	ϵ	Piscium	3	51.5	53.6	54.8	4.5	5.5	6.9	8.1	9.0	18.4	19.8	21.7	56 6.71	0.13	6.11	0 56 0.47	11.48
		Weisse 55	4	9.0	11.0	12.1	22.1	23.3	24.4	25.5	26.5	36.5	37.5	39.4	5 24.30	0.13	6.11	1 5 18.06	11.59
		Weisse 62	5	. .	. .	. .	2.4	3.9	5.8	21.0	23.4	24.6	25.9	27.1	6 16.76	26.34	6.11	1 5 44.31	11.59
		Weisse 76	6	50.1	51.1	52.3	53.7	54.7	. .	22.7	24.8	26.3	27.5	28.7	7 9.19	17.01	6.11	1 6 46.06	11.58
		Polaris	7	. .	. .	. .	47.0	34.0	19.0	7.5	46.0	. .	. .	. .	11 18.70	4.73	6.11	1 11 7.86	9.23
		Weisse 201	8	. .	. .	. .	4.2	5.5	7.5	22.9	25.0	26.3	27.7	28.9	14 18.50	26.42	6.11	1 13 45.97	11.65
		Weisse 381	9	. .	. .	. .	13.1	14.3	15.4	16.7	17.7	27.2	28.5	30.5	23 20.43	5.16	6.11	1 23 9.16	11.25
		Weisse 402	10	15.4	17.4	18.5	28.3	29.4	30.6	31.8	32.8	42.3	43.6	45.5	24 30.51	0.15	6.11	1 24 24.25	11.25
		Weisse 576	11	15.2	17.3	18.4	28.2	29.2	30.3	31.5	32.5	42.0	43.2	45.4	33 30.29	0.13	6.11	1 33 24.05	11.60
		Weisse 612	12	27.0	29.0	30.1	39.8	40.9	42.1	43.2	44.2	53.9	55.2	57.0	34 42.04	0.13	6.11	1 34 35.80	11.63
	o	Piscium	13	11.4	13.4	14.6	24.3	25.4	26.4	27.7	28.7	38.4	39.5	41.6	38 26.49	0.13	6.11	1 38 20.25	11.70
	γ	Ceti	14	13.5	15.7	16.8	26.5	27.5	28.6	29.8	30.9	40.3	41.5	43.4	36 28.59	0.14	6.11	2 36 22.34	11.61
	π	Arietis	15	40.7	42.8	44.0	54.0	55.1	56.2	57.7	58.8	8.5	9.8	11.9	41 56.32	0.13	6.12	2 41 50.07	12.43
		Weisse 728	16	. .	. .	. .	26.1	27.5	29.4	44.5	47.0	48.4	49.5	50.8	43 40.40	26.49	6.12	2 43 7.79	12.23
		Weisse 746	17	0.9	2.9	4.1	14.1	15.0	16.4	17.5	18.5	28.2	29.6	31.6	44 16.26	0.13	6.12	2 44 10.01	12.24
		Weisse 841	18	43.0	45.1	46.3	56.1	57.3	58.5	59.7	0.7	10.7	11.8	13.7	48 58.45	0.13	6.12	2 48 52.20	12.30
	ϵ	Arietis	19	24.4	26.5	27.8	38.0	39.2	40.5	41.7	42.8	52.8	54.3	56.4	51 40.40	0.12	6.12	2 51 34.16	12.74
		Weisse 1001	20	29.5	31.8	32.9	42.6	43.7	44.9	46.2	47.2	56.9	58.1	0.2	57 44.91	0.13	6.12	2 57 38.66	12.32
		Moon II	21	17.7	19.9	21.2	31.7	32.8	33.9	35.2	36.5	46.4	47.7	49.8	3 33.89	0.13	6.12	3 3 27.64	. .
	ζ	Arietis	22	3.3	5.4	6.7	17.0	18.1	19.2	20.4	21.6	32.0	33.2	35.2	7 19.28	0.12	6.12	3 7 13.04	12.87
		Weisse 139	23	52.9	55.0	56.4	6.2	7.4	8.4	9.7	10.7	20.4	21.6	23.5	9 8.38	0.13	6.12	3 9 2.13	12.47
		Weisse 328	24	14.8	16.6	17.7	27.3	28.4	29.7	30.8	31.9	41.5	42.6	44.5	13 29.62	0.14	6.12	3 13 23.36	11.38
		Weisse 240	25	57.6	59.7	1.0	10.6	11.7	12.9	14.0	15.0	24.5	25.6	27.7	14 12.75	0.14	6.12	3 14 6.49	11.37
	f	Tauri	26	33.5	34.6	35.7	36.9	38.0	. .	6.0	8.5	9.7	11.0	12.4	23 52.63	17.15	6.12	3 23 29.36	12.48
Tr.	γ	Leonis	27	23.6	25.6	26.9	37.0	38.4	39.6	40.9	42.0	52.0	53.4	55.7	12 39.56	0.12	6.16	10 12 33.28	+ 14.85
		Venus II	28	50.5	52.5	53.9	3.5	4.8	5.8	7.0	8.1	17.6	19.0	21.1	51 5.80	0.13	6.15	10 50 59.52	— 0.44
	δ	Leonis	29	47.2	49.2	50.3	0.8	1.9	3.1	4.7	5.7	15.8	17.2	19.1	7 3.18	0.12	6.15	11 6 56.91	+ 14.58
		Mercury	30	16.2	18.1	19.4	28.9	29.9	31.1	32.4	33.4	42.8	44.4	46.2	18 31.16	0.14	6.07	12 18 24.95	. .
7		Sun I	†31	53.7	55.7	56.7	6.2	7.4	8.7	10.2	11.2	20.5	21.7	23.8	52 8.71	0.15	6.14	12 52 2.42	. .
		Sun II	32	3.2	5.2	6.4	16.0	17.1	18.2	19.6	20.7	30.2	31.4	32.3	54 18.21	— 0.15	6.14	12 54 11.92	. .
		Polaris, S. P.	†33	. .	. .	. .	41.0	59.0	12.0	22.0	41.0	16.0	22.0	6.0	7 49.88	+ 3 25.99	6.14	1 11 9.13	9.10
	a	Bootis	34	. .	. .	. .	35.2	36.4	37.5	38.8	40.0	49.9	51.5	53.4	9 42.84	— 5.42	6.14	14 9 31.28	12.70
	a	Coronæ Borealis	35	48.7	51.0	52.4	2.9	4.4	5.6	6.9	8.1	18.8	20.2	22.4	29 5.58	0.12	6.14	15 28 59.32	11.76
	a	Serpentis	36	. .	. .	. .	56.8	58.1	0.0	15.1	17.2	18.5	19.8	21.3	38 10.85	— 26.02	6.13	15 37 38.70	13.19
	γ	Piscium	37	5.1	7.1	8.4	17.9	19.1	20.3	21.5	22.5	31.9	33.1	. .	10 18.69	+ 1.36	6.10	23 10 13.95	11.67
	b	Piscium	38	22.9	25.0	26.2	35.9	36.9	38.0	39.2	40.3	. .	. .	. .	13 33.05	4.83	6.10	23 13 31.78	11.68
		Radcliffe 6081	39	2.5	5.0	6.9	8.6	13.4	. .	. .	. .	. .	. .	. .	20 7.28	+ 57.21	6.10	23 20 58.39	8.69
		* + 54° 7′	40	39.4	42.9	44.9	1.3	2.7	5.2	7.0	8.8	21.9	24.7	27.1	21 5.08	— 0.14	6.10	23 20 58.84	8.70
		* + 54° 5′	41	58.8	2.0	4.2	20.6	22.2	23.9	26.2	27.7	43.8	46.3	49.4	22 24.10	0.14	6.10	23 22 17.86	8.74
		Lacaille 9540	42	. .	. .	. .	56.8	58.2	59.7	1.4	2.9	15.4	17.4	20.0	31 6.48	6.99	6.10	23 30 53.39	12.23
		Lacaille 9542	43	32.5	35.2	36.5	49.9	51.2	52.7	54.5	56.1	8.7	10.2	13.1	31 52.78	0.25	6.10	23 31 46.43	12.20
		Lacaille 9554	44	. .	. .	. .	59.1	0.5	1.8	3.6	4.7	. .	. .	. .	34 1.94	— 0.30	6.10	23 33 55.54	12.13
		O. Arg. S. 8	45	57.1	58.5	59.8	1.1	3.6	. .	7.3	9.7	11.2	12.5	14.2	1 35.50	+ 0.07	6.10	0 1 29.47	11.56
		O. Arg. S. 9	46	23.9	25.9	27.2	37.3	38.5	39.7	40.9	42.1	52.4	53.7	55.8	1 39.76	— 0.17	6.10	0 1 33.49	11.56
		O. Arg. S. 52	47	18.1	19.3	20.8	22.1	24.6	40.7	42.8	44.2	. .	. .	. .	5 29.08	+ 27.50	6.10	0 5 50.48	11.51
	γ	Pegasi	48	. .	. .	. .	39.8	41.1	43.0	58.5	0.9	1.9	3.3	4.7	6 54.15	— 26.66	6.10	0 6 21.39	11.29
		* — 15° 13′	49	55.4	57.6	58.8	. .	. .	. .	. .	. .	23.1	24.4	26.4	10 10.95	0.12	6.10	0 10 4.73	11.47
		O. Arg. S. 117	50	32.0	34.0	35.1	45.4	46.4	47.7	49.1	50.2	0.1	1.5	3.6	12 47.74	— 0.17	— 6.10	0 12 41.47	+ 11.45

31. Unsteady; limb badly defined.
33. Unsteady.

October 6–7. By P., P. S. P., and P., n. = + 0.07 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	
Oct. 7,	21.6	— 6.11	+ 0.004	— 0.14

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 7	O. Arg. S. 122	1	6.0	8.2	9.5	19.5	20.8	22.1	23.4	24.4	34.2	35.6	37.7	13 21.95	— 0.17	— 6.10	0 13 15.68	+ 11.45
Tr.	O. Arg. S. 160	2	18.8	21.2	22.5	33.0	34.1	35.4	36.6	37.9	48.0	49.6	51.8	17 35.35	0.19	6.10	0 17 29.06	11.36
	O. Arg. S. 169	3	55.0	57.1	58.3	9.0	10.1	11.3	12.7	14.0	24.1	25.4	27.8	18 11.35	0.19	6.10	0 18 5.06	11.36
	O. Arg. S. 264	4	46.5	48.7	50.1	0.7	1.9	3.2	4.7	5.9	16.4	18.0	20.1	27 3.29	0.19	6.10	0 26 57.00	11.22
	O. Arg. S. 278	5	12.6	14.8	16.2	27.0	28.2	29.5	30.9	32.0	42.5	43.8	46.2	28 29.43	— 0.19	6.10	0 28 23.14	11.20
	* + 2° 7′	6	4.2	6.2	7.4	17.0	18.1	19.2	20.5	21.6	. .	. .	. .	35 14.28	+ 4.82	6.10	0 35 13.00	11.42
	Neptune	7	26.3	28.3	29.5	39.1	40.2	41.3	42.4	43.5	53.0	54.3	56.3	35 41.29	— 0.14	6.10	0 35 35.05	. .
	* + 2° 28′	8	53.9	55.8	56.9	6.6	7.7	8.8	9.9	11.0	20.5	21.8	23.8	38 8.79	0.14	6.10	0 38 2.55	11.42
	Weisse 694	9	. .	. .	. .	. .	. .	. .	22.7	25.0	26.3	27.6	28.9	41 26.10	33.37	6.10	0 40 46.63	11.42
	* + 2° 15′	10	. .	. .	. .	57.9	58.9	0.1	1.3	2.4	. .	. .	. .	41 0.12	0.19	6.10	0 40 53.83	11.42
	Weisse 836	11	45.0	47.1	48.3	57.9	59.0	0.0	1.3	2.3	11.8	13.2	15.2	49 0.10	0.15	6.10	0 48 53.85	11.36
e	Piscium	12	51.5	53.5	54.7	4.4	5.4	6.5	7.7	8.8	18.3	19.7	21.7	56 6.56	0.13	6.10	0 56 0.33	11.48
	Polaris	†13	6.0	29.0	19.0	52.0	32.0	23.0	9.0	51.0	20.0	10.0	32.0	11 20.27	2.85	6.10	1 11 11.32	8.96
δ	Arietis	14	49.5	51.5	52.9	3.0	4.2	5.4	6.7	7.8	17.8	19.2	21.2	4 5.38	0.12	6.09	3 3 59.17	12.40
	Weisse 139	15	52.9	54.9	56.3	6.0	7.2	8.3	9.6	10.7	20.3	21.7	23.8	9 8.34	0.13	6.09	3 9 2.12	12.43
	Weisse 168	16	19.9	22.0	23.2	33.1	34.2	35.4	36.6	37.6	47.3	48.6	50.6	10 35.32	0.13	6.09	3 10 29.10	12.44
	Weisse 228	17	14.5	16.5	17.8	27.2	28.3	29.6	30.9	31.8	41.2	42.5	44.6	13 29.54	0.14	6.09	3 13 23.31	11.36
	Weisse 240	18	57.6	59.7	0.8	10.5	11.5	12.8	13.9	15.0	24.4	25.6	27.6	14 12.67	0.14	6.09	3 14 6.44	11.35
	Rumker 875	19	44.0	45.9	47.2	57.0	58.1	59.4	0.6	1.6	11.2	12.6	14.5	22 59.28	0.13	6.09	3 22 53.06	12.46
f	Tauri	20	20.4	22.3	23.6	33.4	34.5	35.7	37.0	38.0	47.7	49.0	50.9	23 35.68	0.13	6.09	3 23 29.46	12.46
	Weisse (2) 862	21	14.9	17.2	18.5	29.5	30.7	31.9	33.4	34.6	45.4	46.9	49.2	39 32.02	0.12	6.09	3 39 25.81	13.86
	Moon II	22	17.4	19.5	20.8	31.2	32.2	33.6	34.9	35.9	46.1	47.5	49.6	6 33.52	0.13	6.09	4 6 27.30	. .
	Weisse 183	23	7.6	9.8	11.1	21.1	22.3	23.5	24.7	25.8	35.7	37.1	39.2	10 23.45	0.13	6.08	4 10 17.24	13.25
	Weisse (2) 244	24	5.9	7.9	9.2	19.2	20.4	21.6	22.9	23.9	33.5	35.0	37.0	12 21.50	0.13	6.08	4 12 15.29	13.11
γ	Tauri	25	. .	. .	. .	. .	. .	. .	47.9	50.3	51.5	52.9	54.2	12 51.36	34.54	6.08	4 12 10.74	13.09
e	Tauri	26	38.6	40.6	41.8	52.1	53.2	54.4	55.8	56.9	6.7	8.1	10.2	20 54.40	0.13	6.08	4 20 48.19	13.45
a	Tauri	27	5.1	7.2	8.5	18.4	19.5	20.8	22.0	23.1	32.8	34.3	36.4	28 20.74	— 0.13	6.08	4 28 14.53	13.26
	Uranus I	28	33.5	34.9	36.4	37.7	40.4	. .	45.9	48.5	49.7	51.0	52.5	17 13.05	+ 0.13	6.08	6 17 7.10	. .
	Uranus II	29	57.2	59.5	0.9	11.2	12.4	13.8	15.1	16.1	26.4	27.8	29.8	17 13.65	— 0.12	6.08	6 17 7.45	. .
γ	Geminorum	30	48.5	50.5	51.8	1.8	3.1	4.3	5.4	6.6	16.4	17.8	19.8	30 4.18	0.13	6.07	6 29 57.98	14.10
Y.	11 Orionis	31	45.3	47.3	48.5	58.5	59.7	0.9	2.1	3.1	13.0	14.2	16.3	57 0.81	0.17	5.50	4 56 55.14:	13.34
e	Leporis	32	37.0	39.2	40.5	50.9	52.0	53.4	54.6	55.8	6.0	7.3	9.6	59 53.30	0.18	5.49	4 59 47.63:	9.78
	Moon II	33	5.7	7.9	9.0	49.5	50.7	52.0	53.2	54.4	4.6	5.9	8.0	8 51.90	0.18	5.49	5 8 46.23	. .
β	Tauri	34	38.4	40.7	42.0	53.0	54.3	55.4	56.8	58.0	8.9	10.2	12.4	17 55.46	— 0.20	5.49	5 17 49.77:	14.87
	Orionis	35	0.5	2.6	3.7	13.7	14.5	15.6	16.9	17.8	. .	28.6	30.5	25 14.44	+ 1.01	5.49	5 25 9.96	12.06
ζ	Tauri	36	28.0	30.2	31.3	41.9	42.9	44.1	45.4	46.4	56.6	58.0	0.0	29 44.07	— 0.18	5.49	5 29 38.40	14.15
*χ*¹	Orionis	37	16.5	18.8	20.0	30.4	31.5	32.8	34.0	35.0	45.2	46.4	48.6	46 32.65	0.18	5.49	5 46 26.98	14.19
μ	Geminorum	38	40.5	42.7	44.0	54.5	55.6	56.9	58.0	59.1	9.5	10.8	13.0	14 56.78	— 0.19	5.48	6 14 51.11	+ 14.65
δ	Ursæ Minoris, S. P.	39	. .	. .	. .	. .	. .	. .	9.0	30.0	10.0	48.5	25.0	6 12.50	+ 9 19.45	5.48		— 75.49
	Uranus	40	56.8	59.0	0.5	10.8	12.2	13.4	14.8	15.9	26.1	27.2	29.6	17 13.30	— 0.19	5.48	6 17 7.63	. .
8	*γ* Leonis	41	22.8	25.0	26.4	36.8	37.9	39.2	40.4	41.5	51.5	. .	54.9	12 37.64	+ 1.27	5.50	10 12 33.41	+ 14.81
E.	*δ* Leonis	42	0.1	1.3	2.5	4.0	5.1	. .	34.6	37.1	38.4	39.7	41.1	7 20.39	— 17.95	5.47	11 6 56.97	+ 14.55
	Mercury II	43	0.8	2.8	4.0	13.6	14.7	15.9	17.0	18.0	27.7	28.9	30.7	31 15.83	0.16	5.46	12 31 10.20	— 0.17
9	Sun I	44	13.4	15.3	16.4	. .	. .	. .	. .	. .	40.0	41.1	43.0	59 28.20	0.13	5.45	12 59 22.62	. .
	Sun II	45	22.8	24.8	26.0	35.8	36.9	38.0	39.1	40.1	50.0	51.0	53.2	1 37.97	0.17	5.45	13 1 32.35	. .
	Polaris, S. P.	46	. .	. .	. .	44.0	2.5	15.0	24.0	43.0	. .	. .	. .	11 13.70	+ 2.69	5.44		+ 8.66
a	Bootis	47	20.9	22.9	24.2	34.4	35.5	36.7	38.0	39.0	49.1	50.5	52.6	9 36.71	— 0.12	5.43	14 9 31.16	12.71
e	Bootis	48	9.1	10.3	11.8	13.2	14.4	. .	45.6	48.1	49.6	51.0	52.5	39 30.56	18.87	5.42	14 39 6.27	12.33
a	Coronæ Borealis	49	47.9	50.2	51.6	2.4	3.5	4.9	6.2	7.3	18.0	19.2	21.5	29 4.79	0.11	5.41	15 28 59.27	11.78
a	Scorpii	50	59.3	1.3	2.8	13.5	14.5	15.7	17.1	18.2	29.1	30.5	32.5	21 15.86	— 0.17	— 5.39	16 21 10.30	+ 15.94

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	*c.*
h.	s.	s.	s.
Oct. 8, 5.4	— 5.49	+ 0.012	— 0.16

13. Blurred.

October 6–7, . . . n. = + 0.07. (s.)
8 . . . — 0.03.
8–9 10h. to 16h. + 0.14.
After 16h. By *δ* Ursæ Minoris and *δ* Ursæ Minoris, S. P., n. = — 0.01. (s.)

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 9 E.	α Herculis	1	21.3	23.4	24.5	34.5	35.6	36.8	38.1	39.1	49.0	50.2	52.2	8 36.79	— 0.17	— 5.38	17 8 31.24	+ 11.95
	α Ophiuchi	2	32.0	34.1	35.4	45.2	46.3	47.6	48.8	49.8	59.5	0.7	2.9	28 47.48	0.17	5.34		12.03
	μ Herculis	3	0.5	2.9	4.2	15.2	16.3	17.7	19.0	20.2	30.9	32.3	33.4	41 17.60	— 0.19	5.34		+ 10.23
	δ Ursæ Minoris	4	22.0	44.5	6.3	27.2	8.3	. .	. .	. .	. .	. .	. .	6 9.66	+ 9 26.45	5.35	18 15 30.76	— 75.27
	* + 6° 36′	5	. .	. .	. .	29.4	30.6	31.7	33.0	34.0	43.3	45.0	46.7	53 36.71	— 5.19	5.33	19 53 26.19	+ 11.80
	Dorpat 2612, (1st *)	6	18.6	20.0	21.1	22.5	25.0	. .	25.4	27.6	28.9	30.0	31.4	55 55.05	+ 0.06	5.33	19 55 49.78	11.83
	Dorpat 2612, (2d *)	7	42.2	44.3	45.6	55.1	56.1	57.3	. .	. .	9.2	10.5	12.5	55 56.98	+ 0.22	5.33	19 55 51.87	+ 11.83
	λ Ursæ Minoris	8	. .	. .	. .	. .	. .	. .	22.0	21.0	24.0	28.5	41.0	28 15.30	—29 24.54	5.32	19 58 45.44	— 268.48
	O. Arg. S. 20294	9	24.6	26.8	28.0	38.1	39.2	40.6	41.7	42.8	52.8	54.1	56.3	3 40.45	0.16	5.32	20 3 34.97	+ 14.01
	O. Arg. S. 20320	10	. .	. .	. .	40.0	41.0	42.3	43.5	44.5	. .	. .	. .	5 42.26	0.21	5.32	20 5 36.73	13.84
	α^2 Capricorni	11	27.0	29.0	30.3	40.2	41.3	42 4	43.7	44.8	54.5	55.8	57.9	10 42.45	0.16	5.32	20 10 36.97	13.46
	O. Arg. S. 20442	12	. .	. .	. .	42.4	43.3	44.6	45.8	46.9	. .	. .	. .	14 44.58	0.21	5.32	20 14 39.05	13.70
	* — 16° 2′	13	53.6	55.9	57.0	7.0	8.3	9.4	10.6	11.6	21.7	22.9	24.5	15 9.32	0.16	5.32	20 15 3.84	+ 13.70
	* + 53° 42′	14	. .	. .	. .	. .	. .	. .	51.8	55.9	58.0	0.0	2.1	36 57.56	56.34	5.28	22 35 55.94	7.61
	O. Arg. N. 24533	15	. .	. .	. .	11.8	13.9	15.7	17.6	19.5	. .	. .	. .	36 15.70	0.36	5.28	22 36 10.06	7.63
	λ Aquarii	16	28.0	30.1	31.4	41.2	42.3	43.5	44.8	45.9	55.2	56.6	58.5	45 43.41	0.16	5.27	22 45 37.98	11.95
	Juno	17	40.6	42.7	43.8	53.6	54.8	55.9	57.1	58.2	7.8	9.1	11.0	49 55.87	0.16	5.27	22 49 50.44	. .
	Lacaille 9376	18	54.4	56.9	58.2	9.3	10.5	11.7	13.2	14.3	25.2	26.7	28.9	1 11.75	— 0.18	5.27	23 1 6.30	12.53
	Lacaille 9391	19	24.4	25.8	27.2	28.6	31.4	. .	39.2	41.7	43.1	44.5	46.0	4 5.19	+ 0.07	5.27	23 3 59.99	12.42
	O. Arg. S. 22657	20	50.1	52.4	53.9	4.7	5.8	7.3	8.6	9.7	20.5	21.8	24.0	4 7.16	— 0.18	5.27	23 4 1.71	12.42
	Lacaille 9425	21	11.6	13.9	15.1	25.9	27.0	28.2	29.5	30.6	41.0	42.2	44.6	9 28.15	0.17	5.27	23 9 22.71	12.27
	Lacaille 9436	22	30.7	33.0	34.4	45.5	46.6	48.1	49.5	50.6	1.5	3.0	5.1	11 48.00	0.18	5.27	23 11 42.55	12.40
	Lacaille 9462	23	50.1	52.3	53.5	4.0	5.1	6.4	7.7	8.8	19.1	20.5	22.5	17 6.36	0.17	5.27	23 17 0.92	12.10
	Weisse 386	24	. .	. .	. .	. .	. .	. .	33.3	35.6	37.0	38.1	39.3	20 36.66	33.36	5.26	23 19 58.04	11.51
	* — 37° 17′	25	. .	. .	. .	27.9	29.0	30.5	32.0	33.4	. .	. .	. .	24 30.56	0.26	5.26	23 24 25.04	12.30
	Lacaille 9519	26	46.4	48.6	49.9	0.6	1.7	3.0	4.4	5.5	16.0	17.4	19.7	27 3.02	0.17	5.26	23 26 57.59	12.04
	Lacaille 9527	27	. .	. .	. .	. .	. .	. .	. .	18.3	19.7	21.0	22.6	29 29.40	38.77	5.26	23 28 36.37	12.06
	Lacaille 9539	28	39.3	41.5	42.9	53.5	54.8	56.1	57.3	58.4	9.1	10.5	12.6	31 56.00	0.17	5.26	23 31 50.57	11.97
	* — 26° 56′	29	. .	. .	. .	. .	. .	. .	9.9	12.7	14.0	15.3	16.6	38 13.70	37.39	5.26	23 37 31.05	11.91
	δ Sculptoris	30	45.5	47.7	48.9	0.1	1.3	2.6	4.0	5.1	16.0	17.3	19.7	42 2.56	0.18	5.26	23 41 57.12	11.90
	Lacaille 9610	31	42.3	44.5	45.8	56.5	57.7	59.0	0.3	1.5	12.0	13.5	15.7	42 58.98	0.17	5.26	23 42 53.55	11.82
	Neptune	32	13.5	15.5	16.5	26.3	27.3	28.4	29.5	30.6	40.1	41.5	43.4	35 28.42	0.16	5.24	0 35 23.02	. .
	* + 2° 28′	33	53.0	55.0	56.1	6.0	7.0	8.1	9.4	10.5	19.9	21.1	22.8	38 8.08	0.16	5.24	0 38 2.68	11.42
	Weisse 742	34	24.2	26.5	27.6	37.4	38.4	39.4	40.4	41.5	51.2	52.5	54.5	43 39.42	— 0.16	5.24	0 43 34.02	11.45
	Polaris	35	34.5	28.0	22.5	12.0	48.0	. .	. .	. .	. .	. .	. .	48 29.00	+22 46.26	5.24	1 11 10.02	8.57
	ϵ Piscium	36	. .	. .	. .	17.9	19.2	21.0	36.0	38.2	39.5	40.7	41.9	56 31.80	— 26.06	5.24	0 56 0.50	11.47
	* + 9° 48′	37	25.5	27.8	29.1	38.7	39.7	41.1	42.4	43.5	52.9	54.2	56.0	58 40.99	0.16	5.24	0 58 35.59	11.52
	ν Orionis	38	45.1	47.3	48.5	58.6	59.7	0.9	2.0	3.1	12.8	14.1	16.2	0 0.75	0.17	5.14	5 59 55.44	13.70
	Weisse 55	39	19.7	21.3	22.3	. .	. .	. .	. .	. .	46.4	47.9	49.4	4 34.50	0.12	5.14	6 4 29.24	11.35
	Moon II	40	10.5	12.5	13.8	24.2	25.4	26.5	27.9	29.0	39.3	40.5	42.6	9 26.56	0.17	5.14	6 9 21.25	. .
	μ Geminorum	41	40.2	. .	43.7	54.0	. .	. .	57.8	58.9	9.0	10.6	12.9	14 58.39	— 2.09	5.14	6 14 51.16	+ 14.62
	Uranus I	42	33.0	34.4	35.8	37.0	. .	. .	. .	47.7	49.0	50.4	51.7	17 12.38	+ 0.08	5.14	6 17 7.32	. .
	Uranus II	43	56.7	58.8	0.1	10.6	11.8	13.1	14.6	15.5	25.9	27.2	29.4	17 13.06	— 0.18	5.14	6 17 7.74	. .
	δ Ursæ Minoris, S. P.	44	50.0	27.0	4.5	44.0	4.0	. .	. .	. .	. .	. .	. .	25 1.90	9 26.45	5.14	18 15 30.31	— 75.04
	γ Geminorum	45	. .	. .	. .	1.0	2.1	3.4	4.7	5.7	15.5	17.0	19.1	30 8.56	5.37	5.14	6 29 58.05	+ 14.04
	51 Cephei	46	. .	. .	. .	6.5	27.0	51.5	18.0	37.0	. .	. .	. .	36 52.00	4.88	5.13	6 36 42.39	122.49
	ϵ Canis Majoris	47	9.7	11.9	13.5	24.1	25.4	26.8	28.0	29.2	40.0	41.6	43.7	53 26.72	0.18	5.13	6 53 21.41	+ 9.50
Y.	Venus II	†48	33.4	35.4	36.5	46.3	47.5	48.7	50.0	50.9	0.3	1.6	3.8	4 48.49	0.18	5.17	11 4 43.14	— 0.44
	δ Leonis	49	. .	48.4	49.6	0.0	1.1	2.5	3.8	4.9	15.0	16.3	. .	7 2.40	— 0.23	— 5.17	11 6 57.00	+ 14.53

48. Unsteady.

October 9, n. = — 0.01.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Oct. 9, 20.8	— 5.31	+ 0.018	— 0.16

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 9	β Leonis	1	1.3	3.5	4.7	14.8	16.0	17.1	18.4	19.4	29.2	30.7	32.6	42 17.10	— 0.20	— 5.18	11 42 11.68	+ 13.96
Y.	Mercury I	2	0.4	1.8	3.1	4.4	6.7	..	7.0	9.3	10.6	11.8	13.2	37 36.83	+ 0.07	5.19	12 37 31.71	..
	Mercury II	3	22.4	24.4	25.5	35.4	36.4	37.6	38.6	39.7	49.1	50.5	52.5	37 37.46	— 0.16	5.19	12 37 32.11	..
10	Sun I	4	53.6	55.4	56.5	6.4	7.4	8.5	9.8	10.8	20.4	21.6	23.7	3 8.56	0.15	5.20	13 3 3.21	..
	Sun II	5	3.3	5.3	6.4	16.2	17.2	18.4	19.6	20.7	30.1	31.5	33.5	5 18.38	— 0.15	5.20	13 5 13.03	..
	Polaris, S. P.	†6	..	..	..	31.0	52.0	1.0	13.0	31.0	..	..	..	11 1.60	+ 13.29	5.20	1 11 9.69	8.52
α	Bootis	7	20.7	22.9	24.1	34.4	35.5	36.8	37.9	39.0	49.3	50.2	52.5	9 36.66	— 0.21	5.21	14 9 31.24	12.71
δ	Ophiuchi	8	8.5	10.5	11.9	21.4	22.4	23.6	24.8	25.9	35.4	36.6	38.7	7 23.62	0.15	5.24	16 7 18.23	+ 13.81
ϵ	Ursæ Minoris	9	58.7	13.5	23.0	34.5	..	50.7	..	7.3	17.5	26.8	41.0	59 50.33	1.97	5.25	16 59 43.11	— 20.02
α	Herculis	10	21.1	23.3	24.5	34.5	35.5	36.8	38.0	39.0	48.9	50.1	52.2	8 36.72	— 0.20	5.26	17 8 31.26	+ 11.97
δ	Ursæ Minoris	11	23.5	47.0	9.0	31.5	10.0	..	..	..	..	..	..	6 12.20	+ 9 24.58	5.27	18 15 31.51	— 74.51
E. γ	Aquilæ	12	43.4	45.4	46.8	56.5	57.5	58.7	59.9	1.0	10.6	12.0	14.0	39 58.71	— 0.18	5.34	19 39 53.19	+ 11.56
α	Aquilæ	13	4.9	6.9	8.1	17.8	19.0	20.0	21.3	22.2	31.9	33.2	35.1	44 20.04	— 0.18	5.34	19 44 14.52	11.85
β	Aquilæ	14	34.1	36.1	37.2	47.0	48.0	49.1	50.4	51.5	..	2.2	4.2	48 47.98	+ 1.01	5.34	19 48 43.65	11.92
	Dorpat 2601	15	53.9	56.0	57.0	..	..	..	..	..	20.6	21.7	23.5	50 8.78	— 0.12	5.34	19 50 3.32	12.32
	Dorpat 2613, (1st *)	16	31.4	32.8	34.2	35.5	37.9	..	..	..	..	..	..	54 34.36	+ 34.03	5.34	19 55 3.05	11.49
	Dorpat 2613, (2d *)	17	53.4	55.5	56.7	6.3	7.4	8.7	10.0	11.0	..	..	..	55 3.63	+ 4.86	5.34	19 55 3.15	+ 11.49
λ	Ursæ Minoris	18	..	..	..	6.0	4.5	9.0	13.5	7.0	..	..	..	59 8.00	— 17.20	5.34	19 58 45.46	— 265.76
	Weisse 122	19	29.7	31.8	32.9	43.0	44.1	45.2	46.4	47.5	57.2	58.6	0.6	6 45.18	0.15	5.34	20 6 39.69	+ 13.63
	* — 24° 15′	20	1.2	3.5	4.5	15.3	16.4	17.6	19.0	20.0	30.4	31.8	33.9	8 17.60	0.12	5.34	20 8 12.14	14.57
a^2	Capricorni	21	26.9	29.1	30.2	40.1	41.2	42.3	43.6	44.7	54.5	55.8	57.7	10 42.37	0.14	5.34	20 10 36.89	13.45
Y. γ	Pegasi	22	11.3	13.3	14.5	24.5	25.5	26.7	28.0	29.0	38.8	40.3	42.1	6 26.73	0.20	5.31	0 6 21.22	11.29
	Lacaille 55	23	55.3	57.4	58.8	9.3	10.5	11.7	13.0	14.1	24.4	25.8	28.0	15 11.66	— 0.12	5.31	0 15 6.23	11.40
	* — 23° 45′	†24	32.0	33.4	34.7	36.2	38.7	..	44.0	47.0	48.4	49.6	51.2	15 11.56	+ 0.13	5.31	0 15 6.38	11.40
	* — 36° 28′	25	37.8	40.3	41.4	53.6	55.0	56.3	57.8	59.0	10.8	12.3	14.9	21 56.29	— 0.11	5.31	0 21 50.87	11.14
	B. A. C. 138, (1st *)	26	30.4	32.5	33.7	43.3	44.4	45.5	46.6	47.7	57.3	58.5	0.6	27 45.50	— 0.15	5.30	0 27 40.05	11.42
	B. A. C. 138, (2d *)	27	10.0	11.2	12.5	13.8	16.3	..	16.4	18.8	20.0	21.2	22.5	27 46.27	+ 0.08	5.30	0 27 41.05	11.42
	* + 2° 7′	28	41.9	43.2	44.6	45.8	48.3	..	48.4	50.6	51.9	53.1	54.4	35 18.22	+ 0.07	5.30	0 35 12.99	11.41
	Neptune	29	7.0	9.2	10.4	20.0	21.1	22.3	23.5	24.5	34.0	35.1	37.2	35 22.21	— 0.16	5.30	0 35 16.75	..
	Weisse 694	30	37.0	39.0	40.1	49.8	50.9	52.0	53.1	54.1	3.7	5.0	6.9	40 51.96	0.16	5.30	0 40 46.50	11.41
	* + 3° 0′	31	..	..	..	..	..	..	9.1	11.4	12.7	13.8	15.2	43 12.44	— 33.41	5.30	0 42 33.73	11.42
	O. Arg. S. 492	32	47.8	49.1	50.4	51.8	54.3	..	57.8	0.2	1.4	2.7	4.2	47 25.97	+ 0.11	5.30	0 47 20.78	11.12
	O. Arg. S. 498	33	19.4	21.6	22.8	33.0	34.0	35.3	36.6	37.7	47.8	49.0	51.2	47 35.31	— 0.13	5.30	0 47 29.88	11.11
	Weisse 871	34	..	..	..	52.7	53.9	55.0	56.2	57.2	6.6	7.9	9.9	50 59.93	5.15	5.30	0 50 49.48	11.40
ϵ	Piscium	35	50.8	52.8	54.1	3.8	4.8	6.0	7.2	8.3	17.7	19.0	21.0	56 5.95	0.18	5.30	0 56 0.47	11.46
	O. Arg. S. 636	36	31.9	34.3	35.5	46.3	47.5	48.8	50.1	51.2	1.7	3.2	5.1	1 48.69	0.12	5.29	1 1 43.28	10.80
	Weisse 22	37	..	..	..	52.1	53.3	55.4	10.5	12.9	14.1	15.2	16.7	4 6.28	— 26.31	5.29	1 3 34.68	11.54
	Weisse 65	38	32.9	34.2	35.5	36.8	39.3	..	40.3	42.7	44.0	45.3	46.7	6 9.77	+ 0.04	5.29	1 6 4.52	11.56
	Weisse 66	39	57.1	59.1	0.3	10.2	11.3	12.5	13.7	14.7	24.3	25.5	27.6	6 12.39	— 0.19	5.29	1 6 6.91	11.56
	Polaris	40	..	..	..	58.0	41.5	32.0	19.0	1.0	..	..	..	11 30.30	13.29	5.29	1 11 11.72	8.46
	Weisse 255	41	..	..	..	6.4	7.7	9.7	24.6	26.9	28.1	29.4	30.8	17 20.45	26.00	5.29	1 16 49.16	11.51
	Weisse 269	42	..	..	..	43.8	45.1	47.1	2.0	4.4	5.6	6.8	8.2	17 57.88	26.00	5.29	1 17 26.59	11.51
	Weisse 328	43	..	14.6	15.9	25.6	26.6	27.8	29.2	30.2	39.6	40.8	..	20 27.81	0.19	5.29	1 20 22.33	11.53
	Weisse 389	44	29.8	31.8	33.0	42.6	43.7	44.9	46.1	47.1	56.7	57.8	59.8	23 44.85	0.16	5.29	1 23 39.40	11.40
ν	Piscium	45	19.0	21.0	22.2	31.9	32.9	34.1	35.4	36.4	45.8	47.1	49.1	34 34.07	0.17	5.28	1 34 28.62	11.51
o	Piscium	46	10.4	..	13.8	23.5	24.7	25.8	27.0	28.1	37.6	..	40.7	38 25.73	0.18	5.24	1 38 20.31	11.66
μ	Geminorum	47	40.4	42.6	43.6	54.2	55.4	56.7	58.0	59.1	9.3	10.5	12.7	14 56.59	0.23	5.20	6 14 51.16	+ 14.59
	Uranus	48	56.5	58.5	59.7	10.4	11.7	12.9	14.1	15.2	25.4	27.0	29.1	17 12.77	0.23	5.20	6 17 7.34	..
δ	Ursæ Minoris, S. P.	49	48.0	25.5	4.0	43.0	4.0	..	..	..	..	..	..	26 0.90	9 24.58	5.20	18 15 31.12	— 73.59
γ	Geminorum	50	47.9	50.0	51.2	1.3	2.3	3.6	4.8	5.9	15.7	17.0	19.1	30 3.53	— 0.20	— 5.20	6 29 58.13	+ 14.01

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Oct. 10, 14.0	— 5.21	— 0.015	— 0.16
4.0	— 5.24	+ 0.018	

6. Unsteady.
24. Faint.

s.
October 10, n. = —0.12.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	I .	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 10	51 Cephei	1	. .	. .	. .	8.0	29.0	53.5	18.5	38.0	. .	. .	. .	36 53.40	— 6.56	— 5.19	6 36 41.65	+ 120.80
Y.	ζ Geminorum . . .	2	58.6	0.9	2.0	12.5	13.6	14.7	16.0	17.0	27.4	28.7	30.7	56 14.74	0.22	5.19	6 56 9.33	14.58
	Moon II . . .	3	14.0	16.1	17.5	. .	. .	. .	1.9	4.6	5.7	7.1	8.6	7 46.94	17.11	5.18	7 7 24.65	. .
	λ Geminorum . . .	4	12.9	15.1	16.2	26.2	27.2	28.5	29.8	30.8	40.7	41.9	44.2	10 28.50	0.20	5.18	7 10 23.12	14.22
	68 Geminorum . . .	5	46.8	48.8	50.3	0.2	1.5	2.5	3.9	4.8	14.7	16.0	18.0	26 2.48	0.20	5.18	7 25 57.10	14.22
	α Canis Minoris . .	6	19.9	20.9	22.0	23.4	24.4	. .	52.0	54.4	55.7	56.9	58.2	32 38.78	16.87	5.18	7 32 16.73	13.03
	β Geminorum . . .	7	54.5	56.9	58.3	9.1	10.2	11.6	13.0	14.1	24.9	26.2	28.4	37 11.56	0.25	5.18	7 37 6.13	15.38
Tr.	δ Leonis	†8	. .	. .	. .	15.0	. .	18.7	34.6	. .	. .	. .	41.4	7 27.42	25.01	5.37	11 7	+ 14.51
	Venus II . . .	†9	52.4	. .	7.7	. .	. .	22.8	. .	. .	37.7	. .	52.8	9 22.68	0.11	5.37	11 9 17.20	— 0.43
	β Leonis	10	1.6	3.7	5.0	14.9	16.1	17.2	18.5	19.6	29.4	30.7	32.8	42 17.23	0.20	5.30	11 42 11.73	+ 13.95
	Mercury	11	. .	. .	. .	. .	. .	. .	28.7	31.0	32.4	33.5	34.8	44 32.08	— 33.42	5.31	12 43 53.35	. .
	Polaris, S. P. . .	12	. .	. .	. .	11.0	17.0	57.0	52.0	15.0	25.0	40.0	. .	54 39.57	+16 38.58	5.31	1 11 12.84	8.51
11	Sun I	13	34.7	36.7	38.0	. .	. .	. .	. .	. .	. .	. .	. .	6 36.47	+ 13.26	5.31	13 6 44.42	. .
	Sun II	14	44.7	46.8	48.1	57.6	58.9	0.0	1.2	2.3	11.7	13.2	15.0	8 59.95	— 0.17	5.31	13 8 54.47	. .
	α Bootis	15	20.9	23.0	24.3	34.3	35.5	36.7	38.1	39.2	49.2	50.5	52.8	9 36.77	0.21	5.32	14 9 31.24	12.71
	ε Bootis	†16	54.6	57.0	58.4	9.2	10.4	11.8	13.0	14.2	25.2	26.6	28.7	39 11.74	0.24	5.32	14 39 6.18	12.34
	α Serpentis . . .	17	. .	. .	. .	41.8	43.0	44.3	45.4	46.4	. .	. .	. .	37 44.18	0.24	5.33	15 37 38.61	+ 13.23
Y.	ε Ursæ Minoris . .	18	58.5	13.0	21.7	33.5	41.0	49.5	59.2	. .	17.0	26.2	40.3	59 47.99	0.12	5.26	16 59 42.61	— 19.85
	α Herculis . . .	19	21.0	23.2	24.4	34.5	35.5	36.7	38.0	39.0	48.8	50.1	52.1	8 36.66	0.20	5.26	17 8 31.20	+ 11.99
	α Ophiuchi . . .	20	32.0	34.0	35.3	45.1	46.2	47.5	48.7	49.9	59.5	0.7	2.8	28 27.43	0.20	5.26	17 28 41.97	12.07
	μ Herculis	21	0.4	2.9	4.2	15.0	16.2	17.6	19.0	20.1	30.8	32.2	34.4	41 17.53	— 0.24	5.26	17 41 12.03	+ 10.27
	δ Ursæ Minoris . .	22	23.5	46.0	8.0	29.0	9.0	. .	. .	. .	. .	. .	. .	6 11.10	+ 9 25.26	5.26	18 15 31.10	— 74.36
Tr.	β Aquilæ	23	34.1	36.1	37.4	47.0	48.0	49.2	50.4	51.4	0.9	2.2	4.3	48 49.18	— 0.19	5.36	19 48 43.63	+ 11.94
	λ Ursæ Minoris . .	24	. .	. .	. .	9.0	6.0	8.0	12.0	9.0	. .	. .	. .	59 8.80	15.09	5.36	19 58 48.35	— 265.76
	μ Aquarii	25	15.9	17.8	19.0	28.9	29.9	31.1	32.3	33.3	43.0	44.3	46.4	45 31.07	0.17	5.37	20 45 25.53	+ 12.93
	Lacaille 8630 . .	26	. .	. .	. .	34.2	35.5	37.0	38.6	39.9	51.4	53.1	55.6	51 43.16	6.39	5.37	20 51 31.40	15.31
	Lacaille 8635 . .	27	13.0	15.7	17.1	29.1	30.2	31.7	33.4	34.7	46.5	48.0	50.4	52 31.80	0.18	5.37	20 52 26.25	15.29
	* — 37° 54′ . .	28	38.7	41.2	42.6	54.7	56.3	57.7	59.3	0.6	12.7	14.3	16.7	57 57.71	0.18	5.37	20 57 52.16	15.34
	* — 39° 14′ . .	†29	27.9	30.8	32.3	45.0	46.4	47.9	49.5	50.8	2.9	4.7	7.4	0 47.78	0.18	5.37	22 0 42.23	15.44
	φ Capricorni . . .	30	. .	. .	. .	3.3	4.6	5.7	6.9	8.0	18.1	19.5	21.8	8 10.99	5.51	5.37	21 8 0.11	13.63
	Weisse 239 . . .	31	50.7	52.8	54.1	4.0	5.1	6.3	7.5	8.6	18.2	19.6	21.6	12 6.23	0.17	5.37	21 12 0.69	13.01
	Lalande 41544 . .	32	. .	. .	. .	42.4	43.8	45.9	0.9	3.4	4.6	5.7	7.2	16 56.74	26.49	5.37	21 16 24.88	12.91
	Weisse 453 . . .	33	12.9	15.1	16.3	26.0	27.2	28.4	29.8	30.7	40.1	41.5	43.6	20 28.33	0.17	5.37	21 20 22.79	12.85
	Weisse 465 . . .	34	. .	. .	. .	2.0	3.0	4.1	5.3	6.4	16.1	17.5	19.4	21 9.23	5.27	5.37	21 20 58.59	12.84
	Weisse 522 . . .	35	10.1	11.9	13.2	23.3	24.4	25.5	26.7	27.8	37.6	38.9	41.0	23 25.49	0.17	5.37	21 23 19.95	13.01
	Lalande 41870 . .	36	. .	. .	. .	8.9	10.0	11.4	12.5	13.5	23.2	24.5	26.6	25 16.33	5.28	5.37	21 25 5.68	12.85
	Weisse 685 . . .	37	. .	. .	. .	0.9	2.2	4.2	19.3	21.7	23.0	24.2	25.5	30 15.13	26.32	5.37	21 29 43.44	12.67
	ε Pegasi	38	27.0	29.1	30.3	40.1	41.2	42.4	43.7	44.7	54.1	55.4	57.5	37 42.32	0.19	5.37	21 37 36.76	11.33
	* — 1° 16′ . . .	39	2.8	4.9	6.1	15.7	16.8	17.8	19.0	20.1	29.5	30.8	32.9	40 17.85	0.18	5.37	21 40 12.30	12.00
	* — 1° 10′ . . .	40	. .	. .	. .	. .	. .	. .	. .	. .	39.1	40.4	42.2	40 40.57	13.40	5.37	21 40 21.80	11.99
	* — 1° 10′ . . .	41	. .	. .	. .	. .	. .	. .	3.2	5.6	6.8	8.0	9.3	41 6.58	33.38	5.37	21 40 27.83	11.99
	μ Capricorni . . .	42	49.5	51.6	52.9	2.8	3.9	5.1	6.4	7.5	17.1	18.4	20.5	46 5.06	0.17	5.37	21 45 59.52	12.85
	Lacaille 142 . .	43	. .	. .	. .	45.9	47.1	49.1	5.5	8.2	9.4	10.8	12.2	30 1.03	28.20	5.39	0 29 27.44	11.24
	* + 2° 0′ . . .	44	. .	. .	. .	. .	. .	. .	42.4	44.8	46.0	47.1	48.5	35 45.76	33.40	5.39	0 35 6.97	11.41
	Neptune	45	1.3	3.4	4.7	14.3	15.4	16.5	17.6	18.7	28.1	29.4	31.4	35 16.44	0.18	5.39	0 35 10.87	. .
	* + 2° 28′ . . .	46	53.3	55.1	56.4	6.1	7.2	8.3	9.6	10.6	20.0	21.2	23.3	38 8.28	0.18	5.39	0 38 2.71	11.41
	O. Arg. S. 428 . .	47	41.7	43.8	45.0	54.8	56.0	57.3	58.6	59.6	9.5	10.7	12.8	41 57.25	— 0.17	5.39	0 41 51.69	11.22
	Weisse 770 . . .	48	34.9	36.9	38.0	47.6	48.7	49.8	51.0	52.1	. .	. .	. .	44 44.88	+ 4.78	5.40	0 44 44.26	11.42
	Weisse 775 . . .	49	. .	. .	. .	5.8	6.9	8.1	9.4	10.4	19.8	21.1	23.1	45 13.08	— 5.17	— 5.40	0 45 2.51	+ 11.42

8–9. Observed with eye and ear.
16. Faint; unsteady.
29. Faint.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Oct. 11, 18.3	— 5.35	— 0.007	— 0.18

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 11	ϵ	Piscium	1	50.9	52.9	54.3	3.7	4.9	6.1	7.3	8.3	17.8	19.0	21.2	56 6.04	— 0.19	— 5.40	0 56 0.45	+ 11.46
Tr.		Polaris	2	. .	. .	. .	0.5	41.0	29.0	19.0	59.0	. .	. .	. .	11 29.70	11.66	5.40	1 11 12.64	8.41
Y.	δ	Leonis	3	46.5	48.7	50.0	0.1	1.4	2.8	4.1	5.2	15.3	16.5	18.8	7 2.67	0.22	5.47		14.49
		Venus I	4	40.5	42.5	43.7	53.4	54.5	55.7	56.9	58.0	7.5	8.8	10.9	13 55.67	— 0.19	5.47	11 13 50.01	. .
		Venus II	5	19.7	21.0	22.2	23.6	25.9	. .	26.6	28.9	30.1	31.4	32.8	13 56.22	+ 0.05	5.47	11 13 50.80	. .
		Mercury I	6	42.1	43.4	44.8	46.1	48.5	. .	49.0	51.1	52.3	53.6	54.9	50 18.58	+ 0.05	5.49	12 50 13.14	. .
		Mercury II	7	4.1	6.2	7.4	17.1	18.1	19.2	20.6	21.6	30.9	32.3	34.4	50 19.26	— 0.18	5.49	12 50 13.59	. .
		Polaris, S. P.	8	. .	. .	. .	. .	. .	. .	. .	. .	10.0	17.0	0.0	2 9.00	+ 9 8.57	5.49	1 11 12.08	8.41
12		Sun I	†9	16.5	18.7	20.2	29.8	30.9	32.0	. .	. .	. .	. .	. .	10 24.68	+ 7.10	5.49	13 10 26.29	. .
		Sun II	10	26.7	28.8	30.0	39.8	40.8	41.9	43.1	44.2	53.9	55.0	57.0	12 41.93	— 0.17	5.49	13 12 36.27	. .
	δ	Ophiuchi	11	. .	. .	. .	35.5	36.9	39.0	53.9	56.3	57.6	58.7	59.9	7 49.73	25.92	5.53		13.84
15	δ	Leonis	12	. .	. .	. .	15.6	16.8	19.0	35.4	38.0	39.3	40.8	42.1	7 30.88	27.87	5.86	11 6 57.15	14.42
E.		Venus I	†13	. .	. .	. .	. .	. .	. .	39.4	41.9	43.2	44.4	45.7	32 42.92	— 33.74	5.87	11 32 3.31	. .
		Venus II	†14	54.8	56.8	58.1	7.7	8.7	9.8	11.0	12.2	21.8	23.0	25.1	32 9.91	+ 0.11	5.87	11 32 4.15	. .
	β	Leonis	15	2.3	4.1	5.3	15.3	16.3	17.5	18.7	19.8	30.0	31.1	33.3	42 17.61	0.06	5.87	11 42 11.80	13.88
		Polaris, S. P.	16	23.0	4.0	11.0	43.0	3.0	12.0	23.0	39.5	8.5	20.0	56.0	11 11.18	+ 5.30	5.89	1 11 10.59	8.64
		Mercury I	17	52.7	54.1	55.3	56.5	58.8	. .	59.4	1.9	3.2	4.5	5.9	15 29.23	— 0.07	5.89	13 15 23.27	. .
		Mercury II	18	14.2	16.3	17.5	27.1	28.2	29.3	30.5	31.5	41.4	42.4	44.5	15 29.35	+ 0.16	5.89	13 15 23.62	. .
16		Sun I	19	9.0	11.1	12.4	22.0	23.0	24.2	25.2	26.4	36.4	37.6	39.6	25 24.26	0.17	5.89	13 25 18.54	. .
		Sun II	20	19.7	21.9	23.0	32.9	33.8	35.0	36.0	37.3	47.2	48.3	50.4	27 35.05	0.17	5.89	13 27 29.33	. .
	α	Bootis	21	21.3	23.3	24.6	34.7	35.7	36.9	38.2	39.4	49.7	51.0	53.1	9 37.08	0.04	5.90	14 9 31.22	12.72
	α	Serpentis	22	29.7	31.4	32.8	42.2	43.2	44.4	45.5	46.6	56.5	57.6	59.7	37 44.51	+ 0.10	5.91	15 37 38.70	+ 13.27
	ϵ	Ursæ Minoris	23	57.0	11.0	21.0	31.0	39.0	47.5	56.0	4.0	15.5	24.0	38.5	59 47.68	— 0.95	5.93	16 59 40.80	— 19.09
	α	Herculis	24	21.4	23.5	24.8	34.5	35.5	36.7	38.0	39.2	49.1	50.4	52.5	8 36.87	+ 0.06	5.93	17 8 31.00	+ 12.07
Y.	α	Ophiuchi	25	32.3	34.3	35.6	45.3	46.4	47.6	48.8	49.8	59.7	0.9	3.0	28 47.61	0.08	5.81	17 28	12.14
	μ	Herculis	26	0.8	3.0	4.5	15.2	16.3	17.7	19.0	20.2	31.1	32.4	34.7	41 17.72	0.01	5.81	17 41	+ 10.37
	δ	Ursæ Minoris	27	27.0	50.2	10.0	30.7	10.2	. .	. .	. .	. .	. .	. .	6 13.62	9 19.43	5.82	18 15 27.23	— 72.32
E.	α	Aquarii	28	45.2	47.3	48.5	58.0	59.0	0.1	1.3	2.4	12.0	13.2	15.4	59 0.22	0.13	5.98	21 58 54.37	+ 11.95
		* — 23° 23′	29	21.7	23.9	25.2	35.5	36.7	38.0	39.3	40.4	50.8	52.3	54.4	0 38.02	+ 0.25	5.98	22 0 32.29	13.22
		* — 40° 3′	†30	. .	. .	. .	. .	. .	. .	44.7	47.4	48.6	50.4	52.2	3 48.66	— 43.56	5.98	22 2 59.12	14.32
		O. Arg. S. 22102	31	3.2	5.4	6.9	17.5	18.5	19.7	21.1	22.4	33.0	34.2	36.5	15 19.85	+ 0.27	5.99	22 15 14.13	13.13
		Lacaille 9138	32	0.0	2.8	4.8	18.0	19.3	21.0	22.4	23.7	37.6	39.1	41.9	21 20.96	0.44	5.99	22 21 15.41	14.19
		Lacaille 9261	33	55.1	57.4	. .	9.5	10.7	12.0	13.4	14.6	. .	26.9	29.2	41 12.09	0.30	5.99	22 41 6.40	12.87
		Lacaille 9283	34	50.9	53.0	54.5	4.8	6.0	7.3	8.6	9.8	20.2	21.6	23.9	44 7.33	0.26	5.99	22 44 1.60	12.67
	λ	Aquarii	35	28.6	30.6	32.0	41.5	42.4	43.6	45.0	46.0	55.8	57.0	59.0	45 43.77	+ 0.17	5.99	22 45 37.95	12.00
		Weisse 994	36	. .	. .	. .	43.3	44.6	46.7	2.0	4.4	5.7	7.1	8.4	48 57.76	— 26.27	5.99	22 48 25.50	12.10
		Lacaille 9315, (1st *)	37	. .	. .	. .	. .	. .	. .	. .	12.0	13.4	15.0	16.5	51 14.22	38.35	5.99	22 50 29.88	12.66
		Lacaille 9315, (2d *)	38	. .	. .	. .	33.3	34.4	35.6	37.0	38.2	49.0	50.4	52.5	50 41.30	— 5.27	5.99	22 50 30.04	12.66
		Lacaille 9359	39	0.6	1.9	3.5	4.8	7.3	24.3	26.5	28.0	. .	. .	. .	57 12.11	+ 29.35	5.99	22 57 35.46	12.59
		Lacaille 9361	40	52.5	54.9	56.2	6.5	7.7	9.2	10.4	11.6	22.4	23.6	25.9	58 9.17	+ 0.27	5.99	22 58 3.45	12.49
		Lacaille 9385	41	0.0	1.3	2.8	4.3	5.8	. .	42.8	46.0	47.5	49.2	51.0	3 25.07	— 21.76	5.99	23 2 57.32	12.95
		Lacaille 9407	42	18.2	21.0	22.7	35.5	36.5	38.4	40.1	41.3	44.3	45.8	48.7	7 38.41	+ 0.41	6.00	23 7 32.82	12.88
		Lacaille 9432	43	31.9	34.3	36.0	48.8	50.0	51.8	53.5	55.0	7.9	9.4	12.1	10 51.88	0.41	6.00	23 10 46.29	12.79
		Lacaille 9443	†44	. .	. .	. .	26.5	27.7	29.1	30.8	32.0	. .	. .	. .	12 29.22	0.48	6.00	23 12 23.70	12.78
		Lacaille 9454	45	44.7	47.4	48.9	2.0	3.3	4.9	6.5	8.0	20.8	22.4	25.3	16 4.89	0.42	6.00	23 15 59.31	12.68
		Weisse 386	46	28.3	29.6	30.6	31.7	33.9	49.0	51.0	52.4	. .	. .	. .	19 38.31	+ 25.83	6.00	23 19 58.14	11.55
	κ	Piscium	47	8.0	9.0	10.2	11.5	12.6	. .	40.6	42.9	44.3	45.5	46.7	20 27.13	— 16.67	6.00	23 20 4.46	11.56
		Lacaille 9507	48	23.5	26.0	28.0	40.8	42.2	43.7	45.4	47.0	59.9	1.6	4.1	24 43.84	+ 0.42	6.00	23 24 38.26	12.47
		Lacaille 9540	49	39.2	41.6	43.4	56.5	57.9	59.3	1.0	2.3	15.5	17.1	19.5	30 59.38	+ 0.42	— 6.00	23 30 53.80	+ 12.30

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Oct.	12, 13.6	— 5.50	— 0.013	— 0.18
	16, 18.1	— 5.94	— 0.011	+ 0.13

9. Cloudy.
13–14. Very unsteady.
30. Faint.
44. Very faint.

October 11–12. By P. S. P., P., and P. S. P., n. = s. —0.06.
15–16. By P. S. P. and P. . . . —0.26.

October 13, 16h. Image r. 0.00. Clamp west.
Image east 0.61. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 16 E.	ι Piscium	1	55.4	57.3	58.6	7.9	9.0	10.2	11.4	12.4	22.1	23.3	25.4	33 10.27	+ 0.11	— 6.00	23 33 4.38	+ 11.53
	Lacaille 9578	2	. .	. .	. .	9.2	10.6	12.2	13.8	15.0	28.0	29.6	32.2	37 18.82	— 6.19	6.00	23 37 6.63	12.13
	Lacaille 9585	3	12.1	14.6	16.4	29.4	30.6	32.2	34.0	35.4	48.5	50.0	52.7	39 32.35	+ 0.42	6.00	23 39 26.77	12.08
	ε Piscium	4	51.3	53.3	54.6	4.0	5.0	6.3	7.6	8.6	18.4	19.5	21.5	56 6.37	+ 0.10	6.01	0 56 0.46	11.44
	Weisse 1034	5	. .	. .	. .	. .	. .	. .	3.9	6.4	7.7	9.1	10.4	0 7.50	— 34.00	6.02	0 59 27.48	11.49
	Polaris	†6	55.0	48.0	39.0	27.0	4.0	. .	. .	. .	. .	. .	. .	48 46.60	+22 30.05	6.01	1 11 10.64	8.66
Y.	δ Leonis	7	46.9	49.0	50.5	0.5	1.5	2.9	4.1	5.2	15.6	16.9	19.0	7 2.92	0.05	5.79	11 6 57.18	14.40
	Venus I	8	25.6	27.5	29.0	38.5	39.5	40.6	41.8	42.9	52.5	53.8	55.7	36 40.67	+ 0.11	5.79	11 36 34.99	. .
	Venus II	9	5.2	6.6	8.0	9.0	11.5	. .	11.6	14.0	15.5	16.9	18.0	36 41.68	— 0.12	5.79	11 36 35.77	. .
	β Leonis	10	2.1	4.0	5.4	15.2	16.2	17.5	18.6	19.7	29.7	30.9	33.0	42 17.48	+ 0.07	5.78	11 42 11.77	13.86
	Mercury	†11	28.7	30.7	31.9	41.6	42.5	43.8	44.8	46.0	55.9	57.0	59.1	21 43.82	0.16	5.77	13 21 38.21	. .
17	Sun I	12	53.7	55.7	56.9	6.6	7.6	8.8	10.1	11.2	20.8	22.1	24.0	29 8.86	0.17	5.77	13 29 3.26	. .
	Sun II	13	4.5	6.5	7.8	17.3	18.4	19.6	21.0	22.0	31.8	33.0	35.0	31 19.72	+ 0.17	5.77	13 31 14.12	. .
	Polaris, S. P.	14	. .	. .	. .	. .	. .	. .	. .	. .	. .	44.0	35.0	35 9.50	—23 56.14	5.77	1 11	8.66
	α Coronæ Borealis	15	48.1	50.2	51.6	2.3	3.4	4.7	6.1	7.4	18.3	19.5	21.9	29 4.86	+ 0.03	5.76	15 28 59.13	11.87
	α Herculis	16	21.4	23.5	24.8	34.5	35.5	36.8	38.0	39.2	49.1	50.3	52.4	8 36.86	+ 0.07	5.75	17 8 31.18	12.08
19	α Coronæ Borealis	17	46.1	48.5	49.9	0.7	1.8	3.3	4.6	5.7	16.3	17.9	20.0	29 3.16	— 0.23	3.78	15 28 59.15	11.88
	α Serpentis	18	27.4	29.4	30.6	40.3	41.4	42.5	43.8	45.0	54.4	55.7	57.8	37 42.57	0.13	3.78	15 37 38.66	13.28
	Lalande 45028	19	. .	. .	. .	. .	. .	. .	26.9	29.4	30.5	31.8	32.9	55 30.30	33.39	3.78	22 54 53.13	11.85
	* — 4° 32′	20	. .	. .	. .	. .	. .	. .	45.0	47.4	48.6	49.9	51.1	55 48.40	33.39	3.78	22 55 11.23	11.85
	α Pegasi	21	54.4	56.6	57.8	. .	8.7	10.0	11.2	12.2	22.1	23.5	25.5	58 10.20	— 0.39	3.78	22 58 6.03	11.15
	O. Arg. S. 22666	22	7.4	9.7	11.7	20.9	22.0	23.3	24.4	25.6	35.4	36.8	39.0	5 23.29	— 0.05	3.78	23 5 19.46	12.20
	O. Arg. S. 22670	23	56.0	57.5	58.7	0.1	2.5	. .	5.7	8.2	9.6	10.7	12.2	5 34.12	+ 0.19	3.78	23 5 30.53	12.20
	Lacaille 9425	24	9.9	12.1	13.4	23.8	25.0	26.4	27.7	28.7	39.1	40.4	42.7	9 26.29	— 0.03	3.78	23 9 22.48	12.32
	Lacaille 9436	25	. .	. .	. .	43.5	44.8	46.1	47.5	48.7	59.5	0.9	3.2	11 51.78	5.76	3.78	23 11 42.24	12.44
	O. Arg. S. 22766	26	. .	. .	. .	38.9	40.4	42.4	58.4	0.9	2.3	3.5	4.9	13 53.96	27.53	3.78	23 13 22.65	12.18
	κ Piscium	27	53.3	55.4	56.5	6.1	7.2	8.4	9.5	10.6	20.1	21.4	23.3	20 8.35	0.11	3.78	23 20 4.46	11.60
	Lacaille 9497	28	0.9	3.1	4.4	14.8	15.9	17.3	18.5	19.7	29.9	31.2	33.3	23 17.18	0.04	3.78	23 23 13.36	12.10
	Lacaille 9519	29	44.4	46.7	48.0	58.7	59.9	1.1	2.6	3.7	14.1	15.4	17.7	27 1.12	0.03	3.78	23 26 57.31	12.11
	Lacaille 9527	30	22.9	25.3	26.6	37.5	38.7	40.0	41.3	42.5	53.3	54.7	57.0	28 39.98	0.02	3.78	23 28 36.18	12.13
	ι Piscium	31	53.2	55.3	56.5	6.1	7.2	8.3	9.5	10.5	20.0	21.1	23.2	33 8.26	— 0.13	3.78	23 33 4.35	11.55
	Lacaille 9576	32	36.2	38.6	39.9	51.6	52.8	54.2	55.7	57.0	8.3	9.9	12.2	36 54.22	0.00	3.78	23 36 50.44	12.08
Tr.	Polaris, S. P.	33	. .	. .	. .	44.0	3.0	14.0	23.0	42.0	15.0	23.0	6.0	7 51.25	+ 3 27.42	3.73	1 11 14.94	8.60
20	Sun I	34	22.1	23.2	24.6	25.8	27.0	. .	54.9	57.3	58.4	59.7	1.1	40 41.41	— 17.05	3.73	13 40 20.63	. .
	Sun II	35	20.6	22.7	23.9	33.7	34.8	36.0	37.2	38.3	48.1	49.2	51.1	42 35.96	0.11	3.73	13 42 32.12	. .
	α Bootis	36	19.2	21.3	22.6	32.7	33.9	35.1	36.5	37.6	47.6	49.1	51.1	9 35.15	0.11	3.73	14 9 31.31	12.71
	α Coronæ Borealis	37	46.0	48.3	49.6	0.6	1.7	3.0	4.3	5.4	16.1	17.5	19.8	29 2.94	0.12	3.73	15 28 59.09	11.89
	α Serpentis	38	27.4	29.3	30.5	40.2	41.3	42.4	43.7	44.8	54.3	55.7	57.7	37 42.48	0.11	3.74	15 37 38.63	13.29
Y.	α Herculis	39	19.3	21.4	22.7	32.5	33.7	35.0	36.2	37.3	47.0	48.3	50.4	8 34.89	0.11	3.69	17 8 31.09	12.12
	μ Herculis	40	58.6	1.0	2.2	13.1	14.3	15.7	17.1	18.2	28.8	30.2	32.6	41 15.63	0.12	3.69	17 41 11.82	+ 10.44
	δ Ursæ Minoris	41	19.2	54.0	14.2	56.5	14.2	34.3	55.0	12.0	51.5	13.7	46.5	15 33.74	1.69	3.69	18 15 28.36	— 70.81
	α Lyræ	42	8.0	10.5	12.1	24.4	25.8	27.2	28.9	30.1	42.2	43.9	46.3	32 27.22	— 0.13	3.69	18 32 23.40	+ 8.85
Tr.	ζ Pegasi	43	35.9	38.0	39.3	49.0	50.0	51.3	52.5	53.5	. .	. .	. .	34 46.19	+ 4.92	3.76	22 34 47.35	11.33
	τ^1 Aquarii	44	24.4	26.5	27.8	37.7	38.8	39.9	41.2	42.3	52.1	53.5	55.3	40 39.95	— 0.12	3.76	22 40 36.07	12.36
	* — 14° 18′	45	. .	. .	. .	. .	. .	. .	56.3	58.7	59.9	1.1	2.6	42 59.72	34.37	3.76	22 42 21.59	12.32
	τ^2 Aquarii	46	18.5	20.5	21.9	31.6	32.7	33.9	35.1	36.2	45.9	47.2	49.3	42 33.89	0.12	3.76	22 42 30.01	12.32
	Weisse 976	47	17.0	19.0	20.2	30.0	31.0	32.2	33.5	34.4	44.1	45.4	47.4	47 32.20	0.11	3.76	22 47 28.33	12.15
	Juno	48	20.5	22.5	23.8	33.5	34.5	35.7	36.9	37.9	47.7	49.0	50.9	48 35.72	0.11	3.76	22 48 31.85	. .
	Weisse 994	49	. .	. .	. .	. .	. .	. .	59.5	2.0	3.2	4.4	5.8	49 2.98	33.82	3.76	22 48 25.40	12.11
	Weisse 1017	50	36.7	38.8	40.0	49.7	50.9	52.1	53.2	54.3	4.0	5.2	7.3	49 52.02	— 0.11	— 3.76	22 49 48.15	+ 12.13

6. Through clouds.
11. Faint.

s.
October 16–17 n. = — 0.23.
19, 15h. to 0h. — 0.20.
19–20. By P. S. P. and P., + 0.01.

r.
October 17, 13h. Image east 0.53. Clamp east.
Image east 0.14. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Oct.	17, 13.8	— 5.77	+ 0.007	+ 0.13
	19, 19.4	3.81	— 0.001	— 0.11
	20, 20.5	— 3.75	— 0.003	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1865.																		
Oct. 20	* — 8° 32′	1	35.9	37.9	39.1	..	..	..	..	..	3.0	4.2	6.2	55 51.05	— 0.07	— 3.76	22 55 47.22	+ 12.00
Tr.	h^1 Aquarii	2	..	..	..	11.6	12.7	13.8	15.0	16.1	..	..	..	58 13.84	0.16	3.76	22 58 9.92	11.98
	h^2 Aquarii	3	..	..	..	21.2	22.3	23.5	24.7	25.8	..	..	..	58 23.50	0.16	3.76	22 58 19.58	11.97
	* — 8° 24′	4	42.8	44.8	46.1	55.8	56.8	58.0	59.3	0.3	9.8	10.9	13.0	58 57.96	0.11	3.76	22 58 54.09	11.97
	12 Ceti	†5	1.4	3.6	4.6	14.5	15.4	16.6	17.7	18.8	28.5	29.7	31.7	23 16.59	0.11	3.76	0 23 12.72	11.42
	B. A. C. 138, (1st *)	6	..	..	..	41.6	42.8	44.0	45.1	46.2	..	..	..	27 43.94	0.16	3.76	0 27 40.02	11.40
	B. A. C. 138, (2d *)	7	..	..	..	..	..	..	15.0	17.1	18.3	19.6	21.0	28 18.20	33.44	3.76	0 27 41.00	11.40
	Neptune	8	6.7	8.6	9.8	19.4	20.4	21.6	22.8	23.9	33.3	34.6	36.5	34 21.60	0.11	3.76	0 34 17.73	..
	* + 2° 28′	9	51.3	53.4	54.5	4.2	5.3	6.5	7.6	8.7	18.1	19.3	21.4	38 6.39	0.11	3.76	0 38 2.52	11.40
	Polaris	10	11.0	32.0	22.0	55.0	35.0	22.0	12.0	56.0	19.0	15.0	33.0	11 22.91	4.08	3.76	1 11 15.07	8.57
	θ Ceti	11	9.1	11.2	12.4	22.1	23.3	24.4	25.7	26.6	36.2	37.5	39.4	17 24.36	0.11	3.76	1 17 20.49	11.09
	* + 2° 46′	12	..	..	..	..	..	..	..	..	49.5	50.6	52.6	38 50.90	13.42	3.77	1 38 33.81	11.40
	* + 2° 46′	13	..	..	..	1.7	2.8	4.0	5.2	6.3	15.7	16.8	19.0	39 8.94	5.10	3.77	1 39 0.07	11.40
	β Arietis	14	3.7	5.8	7.1	17.3	18.5	19.7	21.1	22.2	32.1	33.5	35.6	47 19.69	0.11	3.77	1 47 15.81	11.98
Y.	δ Leonis	15	44.8	47.0	48.4	58.7	59.8	1.2	2.5	3.6	13.6	14.9	17.1	7 1.05	0.14	3.75	11 6 57.16	14.32
	β Leonis	16	0.0	2.3	3.6	13.4	14.5	..	17.0	18.0	27.8	29.2	31.2	42 15.70	0.13	3.76	11 42 11.80	13.79
	Venus I	†17	33.0	34.8	36.2	..	..	..	..	..	59.9	1.0	3.0	54 47.98	0.09	3.76	11 54 44.13	..
	Venus II	†18	..	..	..	..	..	..	18.8	21.1	22.3	23.7	25.1	55 22.20	33.45	3.76	11 54 44.99	..
	Polaris, S. P.	19	17.0	54.0	..	35.0	52.0	4.0	14.0	32.5	7.0	15.0	56.0	10 16.65	53.55	3.78	1 11 6.42	8.55
21	Sun I	20	56.0	58.0	59.4	9.2	10.4	11.6	12.8	13.8	23.4	24.8	26.7	44 11.46	0.13	3.78	13 44 7.55	..
	Sun II	21	7.8	9.7	10.9	20.7	21.8	23.0	24.4	25.4	34.9	36.3	38.4	46 23.03	0.13	3.78	13 46 19.12	..
	α Bootis	22	19.3	21.6	22.7	32.9	34.1	35.3	36.6	37.7	47.9	49.3	51.3	9 35.34	0.14	3.79	14 9 31.41	12.71
	α Coronæ Borealis	23	46.1	48.3	49.8	0.6	1.8	3.1	4.5	5.6	16.2	17.7	19.9	29 3.05	0.15	3.80	15 28 59.10	+ 11.90
	ε Ursæ Minoris	24	55.0	..	..	30.5	..	47.0	..	3.5	13.5	23.0	37.5	0 12.86	27.20	3.82	16 59 41.84	— 18.37
	α Herculis	25	19.5	21.7	22.9	32.7	33.9	35.1	36.4	37.5	47.1	48.5	50.6	8 35.08	0.13	3.82	17 8 31.13	+ 12.13
	δ Ursæ Minoris	26	20.3	53.0	14.0	57.0	14.0	35.0	55.0	12.5	52.5	14.0	47.0	15 34.03	2.20	3.83	18 15 28.00	— 70.41
	O. Arg. S. 23206	27	53.1	55.2	56.5	6.9	8.0	9.2	10.5	11.6	21.7	22.9	25.1	56 9.15	0.14	3.90	23 56 5.11	+ 11.67
	* — 23° 52′	28	46.6	48.8	50.2	0.5	1.7	3.1	4.4	5.4	15.8	17.2	19.3	0 3.00	0.14	3.90	23 59 58.96	11.63
	γ Pegasi	29	9.6	11.8	12.9	23.0	24.2	25.4	26.5	27.6	37.5	38.5	40.6	6 25.24	0.13	3.90	0 6 21.21	11.32
	O. Arg. S. 136	30	47.6	49.8	51.0	1.5	2.6	3.8	5.0	6.1	16.3	17.7	19.8	15 3.75	0.14	3.90	0 14 59.71	11.44
	* — 36° 29′	31	36.2	38.8	40.3	52.2	53.3	54.6	56.2	57.7	9.6	11.0	13.5	21 54.85	0.16	3.90	0 21 50.79	11.17
	* — 36° 29′	32	31.3	33.9	35.2	47.3	48.6	50.0	51.5	52.9	4.7	5.9	8.6	22 50.00	0.16	3.90	0 22 45.94	11.15
	Lacaille 157	33	57.4	59.8	1.0	11.6	12.8	14.2	15.4	16.6	27.1	28.6	30.8	32 14.12	0.14	3.90	0 32 10.08	11.17
	Neptune	34	1.0	3.0	4.2	13.7	14.9	16.0	17.2	18.3	27.6	29.0	30.9	34 15.98	0.13	3.90	0 34 11.95	..
	* + 2° 28′	35	51.6	53.6	54.8	4.4	5.3	6.5	7.9	8.8	18.3	19.5	21.7	38 6.58	0.13	3.90	0 38 2.55	11.40
	O. Arg. S. 423	36	..	..	..	5.0	6.1	7.3	8.5	9.6	19.5	20.8	23.0	41 12.47	— 5.40	3.90	0 41 3.17	11.17
	Weisse 770	37	11.7	12.9	14.3	15.5	18.0	..	18.0	20.4	21.8	23.0	24.3	44 47.99	+ 0.10	3.90	0 44 44.19	11.40
	Weisse 775	38	30.0	31.4	32.7	33.9	36.4	..	36.4	38.8	39.9	41.2	42.7	45 6.34	+ 0.10	3.90	0 45 2.54	11.40
	* + 3° 19′	39	15.5	17.5	18.7	28.5	29.6	30.8	31.9	32.9	42.4	43.6	45.6	46 30.64	— 0.13	3.90	0 46 26.61	11.40
	Weisse 836	40	..	..	..	..	..	..	27.9	30.2	31.4	32.5	33.8	49 31.16	33.43	3.90	0 48 53.93	11.32
	B. A. C. 286	41	21.0	23.2	24.4	34.2	35.3	36.4	37.6	38.6	48.1	49.3	51.4	55 36.32	0.13	3.91	0 55 32.28	11.46
	Weisse 997	42	..	30.8	32.1	41.6	42.7	44.0	45.2	46.2	55.8	57.0	59.0	57 45.44	1.66	3.91	0 57 39.87	11.47
	Weisse 39	43	17.6	19.7	20.9	30.8	31.8	33.1	34.2	35.3	44.8	46.0	48.0	4 32.93	0.14	3.91	1 4 28.88	11.49
	Polaris	44	..	..	..	48.0	29.0	17.0	6.0	48.0	..	..	..	11 17.60	7.18	3.91	1 11 6.51	8.53
	θ Ceti	45	..	..	..	36.3	37.6	39.6	54.9	57.0	58.1	59.5	0.8	17 50.48	26.18	3.91	1 17 20.39	11.09
	η Piscium	46	8.7	10.8	12.0	22.0	23.0	24.3	25.4	26.5	36.4	37.6	39.7	24 24.22	— 0.13	3.91	1 24 20.18	11.66
23	Sun I	47	32.7	34.7	36.0	45.6	46.6	47.8	59.0	50.0	0.0	1.0	3.2	51 47.87	+ 0.04	4.04	13 51 43.87	..
E.	Sun II	48	44.4	46.6	47.7	57.6	..	59.8	1.0	2.1	12.0	13.0	15.1	53 59.93	— 0.08	4.04	13 53 55.81	..
	α Bootis	49	32.8	33.9	35.2	36.5	37.6	..	7.4	9.8	11.1	12 6	14.0	9 53.09	— 17.82	— 4.04	14 9	+ 12.71

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Oct. 21, 18.0	— 3.83	— 0.011	— 0.13
23, 14.2	— 4.04	0.000	+ 0.04

5. Blurred.
17–18. Remarkably unsteady.

October 20–21. P. S. P. and P., n. = s. 0.00.
23 0.00.

October 21, 1h. 40m. Image west r. 0.05. Clamp west.
Image east 0.40. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 24	γ Pegasi	1	9.7	11.7	12.9	22.8	23.8	25.0	26.2	27.3	37.5	38.5	40.6	6 25.09	— 0.01	— 3.79	0 6 21.29	+ 11.33
Y.	O. Arg. S. 136	2	47.6	49.7	51.0	1.0	2.1	3.5	4.7	5.8	16.1	17.4	19.5	15 3.49	+ 0.12	3.79	0 14 59.82	11.45
	44 Piscium	3	21.7	23.6	24.9	34.3	35.3	36.6	37.7	38.7	48.4	49.7	51.6	18 36.59	0.04	3.79	0 18 32.84	11.44
	12 Ceti	4	1.5	3.5	4.7	14.2	15.3	16.5	17.6	18.6	28.3	29.6	31.6	23 16.49	0.06	3.79	0 23 12.76	11.42
	Weisse 477	5	24.7	26.8	28.1	37.4	38.4	39.6	40.8	41.9	51.6	52.8	54.9	28 39.73	0.03	3.80	0 28 35.96	11.42
	Neptune	6	43.8	45.9	47.2	56.7	57.6	58.8	0.0	1.1	10.6	11.8	14.0	33 58.77	0.03	3.80	0 33 55.00	. .
	* + 2° 28′	7	51.3	53.4	54.6	3.9	5.0	6.2	7.3	8.5	18.2	19.3	21.5	38 6.29	+ 0.03	3.80	0 38 2.52	11.41
	Weisse 770	8	12.0	13.2	14.4	15.5	18.0	. .	18.2	20.6	21.8	23.0	24.3	44 48.10	— 0.20	3.80	0 44 44.10	11.41
	Weisse 775	9	30.1	31.5	32.7	33.9	36.3	. .	36.4	38.9	40.0	41.3	42.6	45 6.37	— 0.20	3.80	0 45 2.37	11.41
	* + 3° 20′	10	15.2	17.1	18.4	27.8	28.9	30.0	31.3	32.4	42.0	43.1	45.2	46 30.13	+ 0.03	3.80	0 46 26.36	11.41
	Polaris	11	8.0	27.0	18.5	. .	. .	18.0	5.5	48.0	. .	. .	. .	7 10.83	4 0.94	3.81	1 11	8.56
	θ Ceti	12	8.9	11.0	12.4	21.7	22.8	24.0	25.3	26.3	36.1	37.2	39.3	17 24.09	+ 0.07	3.81	1 17 0.35	11.08
	η Piscium	13	8.4	10.5	12.0	21.7	22.8	23.9	25.2	26.4	36.2	37.5	39.6	24 24.02	— 0.01	3.81	1 24 20.20	11.65
Tr.	β Leonis	14	0.3	2.3	3.7	13.5	14.4	15.7	17.0	18.0	28.0	29.3	31.4	42 15.78	+ 0.10	4.06	11 42	13.71
	Polaris, S. P.	15	44.0	23.0	30.0	55.0	11.0	24.0	31.0	51.0	11.0	18.0	58.0	11 21.45	— 9.79	4.08	1 11	8.61
25	Sun I	16	11.5	13.3	14.7	24.4	25.4	26.6	28.8	29.1	. .	40.1	42.1	59 25.60	+ 1.17	4.09	13 59 22.68	. .
	Sun II	17	23.9	25.1	27.1	37.0	38.0	39.1	40.3	41.4	1.4	2.6	4.7	1 39.15	— 0.04	4.09	14 1 35.02	. .
	α Bootis	18	19.5	21.5	22.8	32.8	34.1	35.3	36.5	37.7	47.9	49.1	51.3	9 35.32	+ 0.12	4.10	14 9	+ 12.70
	ε Ursæ Minoris	19	. .	. .	. .	28.0	35.0	45.0	53.4	1.0	12.0	21.2	36.0	0 21.45	— 37.81	3.98	16 59 39.66	— 17.77
	α Ophiuchi	20	30.4	32.3	33.7	43.4	45.5	45.7	46.9	48.0	57.7	58.9	1.1	28 45.69	0.00	3.97	17 28 41.72	+ 12.27
	δ Ursæ Minoris	21	18.0	51.5	12.5	52.0	9.0	30.0	50.0	8.0	51.0	11.0	46.0	15 30.82	2.36	3.97	18 15 24.49	— 68.74
	α Lyræ	22	8.0	10.5	12.2	24.3	25.5	27.1	28.6	30.1	42.3	43.8	46.3	32 27.16	— 0.09	3.97	18 32 23.10	+ 8.97
	Moon I	23	43.4	45.5	47.0	57.1	58.3	59.6	0.9	2.0	12.3	13.6	15.8	46 59.59	+ 0.10	3.97	18 46 55.72	. .
	* — 4° 42′	24	. .	. .	. .	0.4	1.4	2.6	3.7	4.8	. .	. .	. .	22 2.58	0.11	3.93	0 21 58.76	11.44
	12 Ceti	25	1.7	3.6	5.0	14.4	15.5	16.7	17.8	19.0	28.5	29.8	31.9	23 16.72	0.06	3.93	0 23 12.85	11.43
	14 Ceti	26	30.0	31.8	33.1	42.7	43.7	44.9	46.0	47.2	56.7	58.0	0.0	29 44.92	+ 0.04	3.93	0 29 41.03	11.41
	Neptune	27	. .	. .	. .	5.4	6.5	8.6	23.8	26.1	27.4	28.7	30.2	34 19.59	— 25.59	3.93	0 33 49.67	. .
	* + 2° 28′	28	. .	. .	. .	4.4	5.3	6.4	7.7	8.8	18.3	19.5	21.7	38 11.51	— 4.93	3.93	0 38 2.65	11.41
	* + 6° 8′	29	. .	14.7	16.0	25.5	26.5	27.7	28.9	30.0	39.6	40.7	. .	49 27.73	+ 0.02	3.93	0 49 23.82	11.43
	* + 6° 8′	30	. .	. .	. .	28.1	29.2	31.4	46.4	48.8	50.1	51.4	52.9	50 42.29	— 26.14	3.93	0 50 12.22	11.43
	Polaris	31	. .	. .	. .	46.0	27.0	16.0	5.0	47.0	. .	. .	. .	11 16.20	3.84	3.93	1 11 8.43	8.67
	* + 5° 45′	32	. .	. .	. .	5.2	6.4	8.4	23.6	26.0	27.2	28.5	29.9	16 19.40	26.12	3.93	1 15 49.35	11.45
	Weisse 255	33	. .	. .	. .	. .	52.0	. .	54.2	. .	4.9	6.1	8.3	17 1.10	— 7.97	3.93	1 16 49.20	11.45
	Weisse 269	34	. .	17.5	18.8	28.4	29.4	30.5	31.7	32.7	42.5	43.6	. .	17 30.57	+ 0.03	3.93	1 17 26.67	11.45
	Weisse 389	35	28.4	30.4	31.7	41.1	42.1	43.3	44.5	45.7	55.3	56.5	58.6	23 42.42	0.04	3.93	1 23 39.53	11.33
	* + 3° 2′	36	38.1	40.1	41.4	50.9	51.8	53.0	54.2	55.4	. .	. .	. .	33 48.11	5.02	3.92	1 33 49.21	11.41
	Weisse 601	37	1.3	3.4	4.8	14.1	15.2	16.3	17.5	18.6	. .	. .	. .	34 11.40	5.02	3.92	1 34 12.50	11.41
	Weisse 772	38	52.7	54.7	55.9	5.5	6.5	7.7	8.8	10.0	. .	. .	. .	44 2.73	5.05	3.92	1 44 3.86	11.54
	Weisse 820	39	. .	. .	. .	26.4	27.6	28.8	30.0	31.1	. .	. .	. .	46 28.78	+ 0.06	3.92	1 46 24.92	11.57
	Weisse 880	40	. .	. .	. .	23.9	24.9	26.1	27.3	28.4	38.2	39.4	41.4	50 31.20	— 5.01	3.92	1 50 22.27	11.60
	Weisse 1018	41	43.0	44.8	46.2	55.9	56.9	58.1	59.3	0.4	. .	. .	. .	57 53.08	+ 5.06	3.92	1 57 54.22	11.63
	Weisse 1022	42	5.7	7.8	9.1	18.5	19.6	20.9	22.1	23.1	32.9	34.0	36.1	58 20.89	0.01	3.92	1 58 16.98	11.63
	Weisse 1045	43	21.9	23.8	25.2	34.7	35.7	37.0	38.2	39.3	49.1	50.2	52.4	59 37.05	0.01	3.92	1 59 33.14	11.65
	Weisse 61	44	28.8	30.8	32.1	41.7	42.7	44.0	45.2	46.3	56.0	57.3	59.4	5 44.03	+ 0.01	3.92	2 5 40.12	11.72
	Weisse (2) 805	45	41.9	44.1	45.5	55.7	56.7	58.1	59.4	0.5	10.8	12.1	14.2	33 58.09	— 0.03	3.92	2 33 54.14	12.36
	Weisse 615	46	16.3	18.3	19.7	29.3	30.3	31.5	32.8	33.9	43.7	45.0	47.0	36 31.62	0.00	3.92	2 36 27.70	11.93
	Weisse 746	47	. .	0.7	2.0	11.8	12.9	14.1	15.3	16.4	26.3	27.6	. .	44 14.12	+ 0.01	3.92	2 44 10.21	11.98
	Weisse 841	48	41.0	43.1	44.4	53.9	54.9	56.2	57.4	58.4	8.5	9.6	11.8	48 56.29	0.00	3.92	2 48 52.37	12.02
	(* 132) W. + 13° 45′	†49	. .	. .	. .	29.9	30.8	31.9	33.1	34.3	44.6	45.9	48.2	52 37.34	— 5.10	3.92	2 52 28.32	12.06
	Weisse 1001	50	40.5	41.5	42.8	43.9	45.0	. .	13.8	16.2	17.4	18.7	20.0	57 59.98	— 17.18	3.92	2 57 38.88	+ 12.00

49. Very faint.

October 24 . . . n. = — 0.s20.
24–25. 11h. to 15h. + 0.20.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Oct. 24,	0.8	— 3.80	— 0.014
	13.0	— 4.08	— 0.014
25,	23.0	— 3.94	+ 0.006

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 25		Weisse 36	1	50.2	52.3	53.5	3.1	4.3	5.4	6.7	7.9	17.6	19.0	21.1	4 5.55	0.00	— 3.92	3 4 1.63	+ 12.06
Tr.	ζ	Arietis	2	. .	. .	. .	. .	. .	. .	49.5	52.2	53.5	54.8	56.1	7 53.32	— 35.94	3.92	3 7 13.46	12.52
		Weisse (2) 862	3	13.0	15.2	16.8	27.6	28.7	30.1	31.4	32.6	43.8	45.3	47.3	39 30.16	0.05	3.91	3 39 26.20	13.47
		Weisse 65	4	45.3	47.2	48.7	58.5	59.5	0.8	2.1	3.1	13.4	14.6	16.7	5 0.90	0.02	3.91	4 4 56.97	12.77
		Weisse 183	5	5.8	7.9	9.3	19.2	20.2	21.6	23.0	24.1	34.0	35.4	37.4	10 21.63	0.02	3.91	4 10 17.70	12.85
	γ	Tauri	6	59.6	1.7	3.1	12.8	13.7	15.1	16.4	17.5	27.4	28.6	30.8	12 15.15	0.01	3.91	4 12 11.23	12.62
		Weisse (2) 1261	7	3.4	5.6	7.1	17.8	19.0	20.2	21.6	23.0	33.7	35.0	37.3	56 20.34	0.05	3.91	4 56 16.38	14.09
		Weisse 55	8	. .	. .	. .	42.1	43.3	44.5	45.7	46.6	56.2	57.5	59.6	4 49.44	4.94	3.90	5 4 40.60	11.97
		(* 130) W.	9	37.2	39.2	40.3	. .	50.8	52.0	53.2	54.3	4.1	5.2	7.2	6 52.35	0.19	3.90	5 6 48.26	11.79
	β	Orionis	10	. .	. .	. .	. .	. .	. .	40.8	43.4	44.7	45.9	47.2	8 44.40	— 33.93	3.90	5 8 6.57	10.81
		(* 131) W.	11	20.5	22.6	23.8	33.0	34.1	35.3	36.6	37.6	47.3	48.4	50.5	12 35.43	+ 0.04	3.90	5 12 31.57	11.71
		Weisse (2) 478	12	40.6	42.7	44.1	. .	. .	. .	28.8	31.3	32.6	34.0	35.4	18 13.69	— 17.24	3.90	5 17 52.55	13.00
	δ	Orionis	13	.	1.3	2.6	11.9	13.0	14.1	15.3	16.4	26.0	27.2	29.2	25 15.70	1.45	3.90	5 25 10.35	11.62
		Rumker 1473	14	13.4	15.7	17.0	. .	. .	. .	. .	. .	42.0	43.2	45.7	27 29.50	— 0.07	3.90	5 27 25.53	13.67
		* + 21° 2′	15	. .	. .	. .	29.2	30.3	31.6	33.0	34.1	. .	. .	. .	27 31.64	+ 0.02	3.90	5 27 27.76	13.68
		Σ Cat. Gen. 599	16	11.2	13.3	14.6	24.7	25.8	27.2	28.3	29.5	39.9	41.2	43.5	28 27.20	— 0.03	3.90	5 28 23.27	13.64
	μ	Geminorum	17	39.3	41.4	42.9	53.1	54.1	55.5	56.8	58.0	8.3	9.6	12.0	14 55.55	— 0.03	3.90	6 14 51.62	+ 14.13
	δ	Ursæ Minoris, S. P.	18	. .	. .	. .	. .	. .	. .	55.5	15.0	53.0	31.0	9.2	5 56.74	+ 9 31.62	3.90	18 15 24.36	— 68.74
		Uranus	19	23.2	25.2	26.6	36.9	38.0	39.3	40.6	42.0	52.4	53.8	56.1	16 39.46	— 0.04	3.90	6 16 35.52	. .
Y.		Polaris, S. P.	20	35.5	42.0	52.0	3.0	25.0	. .	. .	. .	. .	. .	. .	33 43.50	22 30.63	3.85	1 11 9.02	+ 8.75
26		Sun I	21	. .	. .	. .	. .	. .	. .	47.7	49.9	51.5	52.8	54.1	3 51.20	34.53	3.77	14 3 12.90	. .
		Sun II	†22	26.8	27.9	29.1	30.4	31.5	. .	0.4	2.7	4.0	5.3	6.7	5 46.48	17.22	3.77	14 5 25.49	. .
	α	Coronæ Borealis	23	0.3	1.4	2.7	3.9	5.2	. .	36.9	39.6	41.1	42.4	43.9	28 21.74	18.90	3.74	15 28 59.10	+ 11.92
	δ	Ursæ Minoris	24	15.7	49.0	12.0	52.0	8.5	29.0	49.0	6.3	50.0	9.0	43.5	15 29.45	1.18	3.69	18 15	— 68.32
	α	Lyræ	25	24.1	25.4	27.0	28.5	29.8	. .	5.5	8.9	10.4	12.1	13.8	32 48.55	21.56	3.68	18 32 23.31	+ 9.00
	β	Lyræ	26	53.1	55.5	57.0	8.2	9.5	10.9	12.4	13.6	25.1	26.5	29.0	45 10.98	— 0.04	3.68	18 45 7.26	9.61
	π	Sagittarii	27	34.4	36.4	37.7	47.9	49.0	50.3	51.5	52.7	3.0	4.3	6.4	1 50.33	+ 0.06	3.67	19 1 46.72	15.14
	d	Sagittarii	28	34.6	. .	38.0	48.0	49.0	50.2	51.4	52.6	2.9	4.1	6.3	9 51.71	— 1.33	3.67	19 9 46.71	14.85
	ρ^1	Sagittarii	29	41.1	43.2	44.5	54.5	55.6	56.8	58.0	59.1	9.3	10.6	12.7	13 56.85	+ 0.05	3.67	19 13 53.23	14.71
	δ	Aquilæ	30	32.6	34.5	35.8	45.3	46.3	47.5	48.7	49.7	59.3	0.6	2.6	18 47.54	0.02	3.67	19 18 43.89	12.71
	e^2	Sagittarii	31	38.5	40.5	41.8	51.7	52.8	54.1	55.3	56.3	6.4	7.6	9.7	34 54.07	0.05	3.66	19 34 50.46	14.38
	f	Sagittarii	32	19.5	21.7	22.9	33.1	34.1	35.4	36.6	37.8	48.0	49.3	51.5	38 35.45	0.06	3.66	19 38 31.85	+ 14.80
		Moon I	†33	34.5	36.5	37.9	48.1	49.2	50.4	51.6	52.8	3.2	4.3	6.6	41 50.46	+ 0.05	3.66	19 41 46.85	. .
	λ	Ursæ Minoris	34	. .	. .	. .	32.0	25.5	29.0	31.0	27.0	. .	. .	. .	58 28.90	— 1.26	3.65	19 58	— 306.41
	ξ^2	Capricorni	35	45.5	47.3	48.8	58.6	59.6	0.9	2.1	3.1	13.0	14.2	16.3	5 0.87	+ 0.04	3.65	20 4 57.26	+ 13.81
	a^2	Capricorni	36	24.8	26.9	28.2	38.0	38.9	40.1	41.3	42.5	52.3	53.5	55.6	10 40.19	0.04	3.65	20 10 36.58	13.76
Tr. 27		Polaris, S. P.	†37	. .	. .	. .	. .	. .	. .	29.0	52.0	0.0	. .	. .	49 7.00	+22 6.70	2.13	1 11 11.57	9.07
28	α	Ophiuchi	38	28.5	30.5	31.8	41.4	42.5	43.8	45.0	46.1	55.9	57.1	59.3	28 43.81	— 0.05	2.03	17 28	+ 12.31
	δ	Ursæ Minoris	†39	17.0	50.5	12.0	51.5	8.5	29.0	48.5	6.0	50.5	10.3	45.0	15 29.86	4.22	2.02	18 15 23.62	— 67.52
	α	Lyræ	40	6.2	8.8	10.5	22.5	23.9	25.5	27.0	28.2	40.4	42.1	44.7	32 25.44	0.20	2.11	18 32	+ 9.04
	β	Aquarii	41	. .	. .	. .	. .	. .	. .	2.4	4.8	6.1	7.4	8.6	25 5.86	— 33.81	1.95	21 24 30.10	12.66
		Moon I	42	14.3	16.3	17.6	27.3	28.4	29.7	30.9	32.1	42.1	43.3	45.4	32 29.76	+ 0.04	1.95	21 32 27.85	. .
	ε	Pegasi	43	. .	. .	. .	36.1	37.1	38.4	39.6	40.7	50.5	51.6	53.8	37 43.48	— 5.06	1.94	21 37 36.48	11.58
		Weisse 988	44	57.1	59.2	0.6	10.2	11.4	12.5	13.8	15.0	24.7	26.0	28.1	42 12.60	+ 0.06	1.94	21 42 10.72	13.03
		Weisse 1033	45	5.1	7.2	8.3	18.1	19.2	20.4	21.6	22.7	32.7	33.8	36.1	44 20.47	+ 0.06	1.94	21 44 18.59	13.02
	μ	Capricorni	46	. .	. .	. .	13.4	14.7	16.8	32.4	34.8	36.1	37.4	38.8	46 28.05	— 26.77	1.94	21 45 59.34	13.08
		B. A. C. 17	47	14.7	16.8	18.1	27.7	28.7	29.9	31.1	32.1	41.7	42.8	44.9	3 29.86	+ 0.03	1.89	0 3 28.00	11.55
	γ	Pegasi	48	7.8	9.9	11.1	21.0	22.0	23.1	24.3	25.6	35.4	36.6	38.8	6 23.24	— 0.06	1.89	0 6 21.29	11.35
		* + 7° 21′	49	59.6	1.7	3.0	12.4	13.4	14.6	15.9	16.9	26.7	27.9	29.9	9 14.73	— 0.03	— 1.89	0 9 12.81	+ 11.44

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Oct. 26,	18.6 — 3.68	+ 0.020	+ 0.02
28,	21.3 — 1.96	+ 0.022	0.00

21–22. Instrument unsteady.
33. Steady.
37. Cloudy.
39. Cloudy.

s.
October 25–26. By P., P. S. P., δ Ursæ, and δ Ursæ S. P., n. = —0.18.
26 0.09.
27–28. By P. S. P. and P. —0.25.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 28. Tr.	36 Piscium	1	. .	. .	. .	41.6	42.6	43.8	45.0	46.0	55.9	57.0	59.0	9 48.86	— 5.03	— 1.89	0 9 41.94	+ 11.43
	Neptune	†2	59.4	0.8	2.0	3.4	5.7	. .	33.1	34.1	35.4	36.5	37.6	33 18.80	+ 16.62	1.88	0 33 33.54	. .
	* + 2° 28′	†3	49.7	51.5	52.8	2.2	3.3	4.5	5.6	6.7	16.5	17.5	19.7	38 4.54	— 0.01	1.88	0 38 2.65	11.42
	Polaris	†4	53.0	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	46 53.00	+24 19.73	1.87	1 11 10.86	+ 9.33
Y. 29	λ Ursæ Minoris	5	. .	. .	. .	. .	. .	. .	1.0	6.0	15.5	24.0	31.5	28 3.60	—29 43.46	1.55	19 58	— 242.20
	ε Aquarii	6	11.1	13.2	14.4	24.2	25.0	26.4	27.5	28.5	38.4	39.5	41.6	40 26.35	0.01	1.55	20 40 24.73	+ 13.30
	μ Aquarii	7	11.6	13.6	14.8	24.4	25.4	26.7	28.0	29.0	38.6	39.7	42.0	45 26.71	0.01	1.55	20 45	13.23
F.	* — 8° 25′	8	46.4	48.4	49.8	59.5	0.5	1.5	2.7	3.7	13.5	14.7	16.8	30 1.59	0.01	1.61	21 29 59.97	12.81
	ξ Aquarii	9	23.4	25.4	26.8	36.3	37.3	38.6	39.7	40.8	50.6	51.8	53.8	30 38.59	0.01	1.61	21 30 36.97	12.80
	ε Pegasi	10	23.0	24.9	26.3	35.7	36.7	38.0	39.2	40.3	50.1	51.2	53.5	37 38.08	0.03	1.61	21 37 36.44	11.60
	* — 1° 16′	11	58.7	0.8	2.0	11.5	12.5	13.6	14.8	15.9	25.4	26.5	28.6	40 13.67	0.02	1.61	21 40 12.04	12.25
	μ Capricorni	12	. .	47.3	48.6	58.3	59.5	0.8	2.0	3.4	13.0	14.2	. .	46 0.81	0.00	1.61	21 45 59.20	13.10
	θ Aquarii	13	32.5	34.4	35.6	45.3	46.4	47.5	48.6	49.6	59.5	0.6	2.7	9 47.52	— 0.01	1.61	22 9 45.90	12.49
	η Aquarii	14	54.4	55.5	56.8	58.0	0.4	. .	. .	. .	. .	. .	. .	27 57.02	+ 33.18	1.61	22 28 28.59	11.97
	Moon	15	18.0	19.9	21.2	31.0	32.1	33.3	34.4	35.5	45.5	46.7	48.8	28 33.31	— 0.01	1.61	22 28 31.69	. .
	ζ Pegasi	16	33.7	35.7	37.0	46.8	47.7	48.9	50.0	51.2	1.0	2.2	4.4	34 48.95	0.03	1.61	22 34 47.31	11.44
	λ Aquarii	17	24.1	26.0	27.5	37.0	38.1	39.3	40.4	41.5	51.3	52.4	54.5	45 39.28	0.01	1.61	22 45 37.66	12.14
	78 Aquarii	18	. .	24.2	25.6	35.3	36.3	37.4	38.6	39.6	49.3	50.4	. .	47 37.41	0.00	1.61	22 47 35.80	12.13
	Juno	19	57.0	58.9	0.2	10.0	11.0	12.0	13.3	14.4	24.2	25.4	27.6	50 12.18	0.01	1.61	22 50 10.56	. .
	α Bootis	20	17.0	18.9	20.3	30.3	31.4	32.5	33.8	34.9	45.1	46.3	48.9	9 32.67	0.06	1.33	14 9	12.67
30	Sun I	21	28.6	30.6	31.7	41.5	42.5	43.6	45.0	46.0	56.3	57.3	59.1	18 43.84	0.03	1.33	14 18 42.48	. .
	Sun II	22	41.8	43.8	45.3	54.8	55.9	57.2	58.4	59.6	9.3	10.5	12.9	20 57.23	0.03	1.33	14 20 55.87	. .
	η Herculis	23	58.8	1.4	3.0	15.1	16.4	17.9	19.7	20.9	33.7	34.7	37.4	38 18.05	0.08	1.37	16 38 16.60	+ 9.98
	ε Ursæ Minoris	24	. .	. .	. .	26.0	32.5	41.0	51.0	59.0	. .	. .	. .	59 41.90	0.25	1.36	16 59	— 17.13
	π Aquarii	25	12.9	14.7	16.1	25.5	26.4	27.7	28.8	30.0	39.5	40.6	42.8	18 27.72	0.04	1.40	22 18 26.28	+ 11.95
	η Aquarii	†26	. .	. .	. .	. .	. .	. .	0.2	2.5	3.8	5.1	6.4	29 3.60	33.69	1.40	22 28 28.51	11.99
	λ Aquarii	27	24.0	26.0	27.3	36.8	37.9	39.1	40.3	41.4	50.9	52.1	54.4	45 39.11	0.04	1.41	22 45 37.66	12.16
	78 Aquarii	28	22.1	24.0	25.3	34.9	35.9	37.2	38.3	39.3	49.1	50.2	52.2	47 37.14	— 0.04	1.41	22 47 35.69	12.14
	Juno	†29	55.3	56.7	58.0	59.2	1.4	. .	29.7	30.8	31.9	33.3	34.3	50 44.06	+ 16.93	1.41	22 50 59.58	. .
	Moon	30	20.4	. .	23.5	33.1	34.2	35.3	36.5	37.6	47.4	. .	50.9	25 35.43	— 0.04	1.41	23 25 33.98	. .
	ι Piscium	31	50.8	52.6	53.9	3.3	4.4	5.6	6.8	7.9	. .	. .	. .	32 0.66	+ 4.96	1.41	23 32 4.21	11.66
	ω Piscium	†32	. .	. .	. .	24.8	25.9	27.2	28.3	29.3	. .	. .	. .	52 27.10	+ 0.01	1.42	23 52 26.69	11.52
	α Andromedæ	†33	13.8	16.0	17.3	28.1	29.3	30.6	31.9	33.2	44.0	45.5	48.0	1 30.70	— 0.07	1.42	0 1 29.21	+11.14
Tr. 31	Venus II	†34	. .	. .	. .	. .	58.5	0.6	15.9	18.4	19.6	20.9	22.0	45 13.70	28.21	0.05	12 44 45.44	— 0.39
	α Virginis	†35	. .	. .	. .	. .	. .	. .	. .	40.0	41.4	42.8	44.1	18 12.08	35.11	— 0.02	13 18 6.95	+ 13.94
	Polaris, S. P.	†36	31.0	34.0	44.0	53.0	19.0	. .	. .	. .	. .	. .	. .	33 36.20	22 27.11	+ 0.01	1 11 9.10	10.24
	α Bootis	37	15.5	17.5	18.8	28.9	30.0	31.3	32.5	33.6	43.8	45.1	47.3	9 31.30	0.13	0.01	14 9 31.18	12.65
Nov. 1	Sun I	38	16.0	18.2	19.6	29.3	30.4	31.6	32.8	33.9	43.8	45.2	47.3	26 31.65	0.02	0.02	14 26 31.65	. .
	Sun II	39	30.1	32.1	33.5	43.3	44.3	45.5	46.7	47.9	58.0	59.2	1.3	28 45.63	0.02	0.02	14 28 45.63	. .
	α Coronæ Borealis	†40	. .	. .	. .	. .	. .	. .	33.7	35.7	37.3	38.7	40.2	29 37.04	37.97	0.06	15 28 59.13	+ 11.94
	ε Ursæ Minoris	41	. .	5.0	14.0	24.3	33.0	41.2	50.0	58.0	9.2	17.5	. .	59 41.36	1.71	0.12	16 59 39.77	— 16.90
	α Herculis	42	15.5	17.6	18.9	28.6	29.6	30.8	32.1	33.3	43.3	44.5	46.6	8 30.98	— 0.11	0.13	17 8 31.00	+ 12.26
	α Ophiuchi	43	26.3	28.3	29.6	39.3	40.4	41.5	42.8	43.9	. .	. .	. .	28 36.51	+ 5.01	0.14	17 28 41.66	12.35
	12 Ceti	44	. .	. .	. .	10.1	11.2	12.3	13.5	14.6	24.4	25.5	27.6	23 17.40	— 5.02	0.42	0 23 12.80	11.45
	Neptune	45	. .	. .	. .	10.1	11.2	12.3	13.5	14.6	24.3	25.4	27.5	33 17.36	5.03	0.43	0 33 12.76	. .
	* + 2° 28′	46	47.3	49.2	50.4	59.8	0.9	2.1	3.4	4.5	14.1	15.4	17.3	38 2.22	0.07	0.43	0 38 2.58	11.43
	δ Piscium	47	29.5	31.4	. .	42.2	43.3	44.6	45.7	46.8	. .	57.6	59.6	41 44.51	0.08	0.43	0 41 44.86	11.45
	Polaris	48	. .	. .	. .	47.0	27.0	19.0	7.0	48.0	. .	. .	. .	11 17.60	7.91	0.45	1 11 10.14	10.30
	Moon I	49	12.0	14.1	15.5	25.1	26.2	27.6	28.8	29.9	39.8	41.1	43.3	24 27.58	0.09	0 46	1 24 27.95	. .
	B. A. C. 481	50	48.0	49.8	51.3	0.7	1.7	2.9	4.2	5.2	14.9	16.2	18.2	29 3.01	— 0.08	+ 0 46	1 29 3.39	+ 11.46

2–3. Through clouds.
4. Through clouds.
26. Cloudy.
29. Through clouds.
32–33. Through clouds.
34–35–36. Through clouds.
40. Tremulous.

	s.
October 29 n.	= — 0.04.
30	0.04.
31–November 1. By P. S. P. and P.,	— 0.18.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Oct. 29, 22. 1	— 1.61	0.000	— 0.02
30, 21. 9	— 1.40	— 0.009	0.04
31, . .	. .	. .	0.06
Nov. 1, 19. 9	+ 0.24	+ 0.040	— 0.08

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduced 1870.0
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 1	ν Piscium	1	13.3	15.2	16.5	26.0	27.0	28.2	29.4	30.4	40.2	41.3	43.4	34 28.26	— 0.08	+ 0.47	1 34 28.65	+ 11.6
Tr.	o Piscium	2	4.9	6.9	8.0	17.6	18.8	20.0	21.0	22.1	31.8	33.0	35.2	38 19.94	0.09	0.47	1 38 20.32	11.5
	54 Ceti	3	31.0	33.1	34.4	44.0	45.0	46.2	47.4	48.5	58.3	59.5	1.6	43 46.27	0.09	0.47	1 43 46.65	11.5
	β Arietis	4	59.6	1.6	3.0	13.0	14.0	15.5	16.7	17.8	28.1	29.3	31.4	47 15.45	0.13	0.48	1 47 15.80	11.5
	α Ceti	5	..	..	..	..	..	..	44.0	46.4	47.7	48.8	50.3	55 47.44	— 33.27	3.55	2 55	11.5
	B. A. C. 987	6	42.8	44.8	46.1	..	..	..	..	..	10.3	11.6	13.5	3 58.18	+ 0.01	3.55	3 4 1.74	11.5
	ζ Arietis	7	54.1	56.3	57.5	7.8	9.0	10.1	11.4	12.5	22.4	23.8	25.8	7 10.06	— 0.04	3.55	3 7	12.4
5	ϵ Tauri	†8	29.1	30.8	32.3	42.4	43.7	44.9	46.1	47.0	57.3	58.5	0.6	20 44.79	0.04	4.16	4 20 48.91	12.3
	τ Tauri	9	53.0	55.0	56.2	7.0	8.0	9.3	10.6	11.8	22.0	23.3	25.6	34 9.25	— 0.05	4.16	4 34 13.36	12.0
	(* 128) W.	10	46.8	49.0	50.3	0.0	1.1	2.5	3.6	4.7	..	..	..	40 57.25	+ 5.02	4.16	4 41 6.43	12.3
	* + 10° 43′	11	..	..	..	12.2	13.2	14.4	15.7	16.8	26.1	27.7	29.7	41 19.48	— 5.10	4.16	4 41 18.54	12.3
	* + 10° 43′	12	..	..	..	..	..	..	35.8	37.4	38.7	39.8	41.3	41 38.60	33.81	4.16	4 41 8.95	12.3
	Weisse 1028	13	20.7	22.8	24.2	33.8	35.0	36.0	37.4	38.3	47.8	49.2	51.2	47 36.04	— 0.02	4.17	4 47 40.19	+ 12.0
	ϵ Ursæ Minoris, S. P.	14	27.0	10.5	3.0	53.5	43.5	35.0	25.0	19.0	8.0	59.0	45.0	59 35.32	+ 0.67	4.17	16 59 40.16	— 16.0
	β Orionis	15	47.4	49.5	50.8	0.2	1.3	2.6	3.8	4.9	14.5	16.0	18.0	8 2.64	0.00	4.17	5 8 6.81	+ 10.3
	δ Orionis	†16	51.2	53.3	54.6	4.3	5.2	6.3	7.5	8.8	18.0	19.2	21.2	25 6.33	— 0.01	4.18	5 25 10.50	11.3
	Rumker 1473	17	5.4	7.7	9.1	19.1	20.2	21.7	23.0	24.1	34.2	35.5	37.8	27 21.62	0.04	4.18	5 27 25.76	13.3
	ϵ Orionis	18	6.6	8.7	9.9	19.4	20.5	21.7	22.9	23.9	33.3	34.4	36.4	29 21.61	0.01	4.18	5 29 25.78	11.3
	Moon II	19	7.3	9.4	10.8	21.2	22.3	23.4	24.7	25.9	36.1	37.6	39.7	41 23.49	0.04	4.18	5 41 27.63	..
	α Orionis	†20	36.5	38.6	40.0	49.6	50.7	51.9	53.0	54.0	3.4	5.0	7.0	47 51.79	0.02	4.19	5 47 55.96	12.1
	ν Orionis	21	35.3	37.4	38.7	48.4	49.7	50.9	52.2	53.2	2.8	4.2	6.3	59 50.83	— 0.03	4.19	5 59 55.99	12.2
	μ Geminorum	22	8.2	9.8	11.3	12.6	15.3	..	..	..	..	..	..	14 11.44	+ 36.39	4.19	6 14 52.02	+ 13.0
	δ Ursæ Minoris, S. P.	†23	..	..	..	..	..	..	48.5	8.5	50.0	31.0	9.0	5 53.40	+ 9 23.01	4.19	18 15 20.60	— 64.5
	Uranus	24	20.5	22.8	24.1	34.7	36.2	37.3	38.5	39.7	50.0	51.5	53.4	15 37.15	— 0.05	4.19	6 15 41.29	..
E.	Polaris, S. P.	†25	..	..	..	26.0	41.0	52.0	9.0	25.0	..	..	..	10 54.60	+ 5.55	4.53	1 11 4.68	+ 10.9
	α Bootis	26	..	..	..	39.3	40.6	42.6	58.5	0.9	2.3	3.6	5.0	9 54.10	— 27.38	4.52	14 9 31.24	+ 12.6
6	Sun II	27	13.7	15.7	17.0	27.2	28.3	29.4	30.7	31.8	41.7	42.9	44.9	48 29.39	0.00	4.52	14 48 33.91	— 67.5
	Mercury I	28	34.4	36.0	37.1	38.5	41.1	..	45.3	47.6	48.9	50.2	51.7	25 13.08	+ 0.25	4.51	15 25 17.84	..
	Mercury II	29	57.6	..	1.1	11.3	12.5	13.7	15.0	16.1	26.2	..	29.8	25 13.70	+ 0.01	4.51	15 25 18.22	..
	α Coronæ Borealis	30	37.9	40.0	..	52.4	53.5	54.9	56.1	57.3	7.9	9.3	11.5	28 56.08	— 1.39	4.51	15 28 59.20	+ 11.3
	α Serpentis	31	18.9	21.1	22.3	32.0	33.1	34.2	35.2	36.5	45.9	..	49.1	37 32.83	+ 1.28	4.51	15 37 38.62	13.3
	α Scorpii	32	48.7	51.0	52.6	3.2	4.5	5.7	7.1	8.3	18.8	20.3	22.4	21 5.69	+ 0.02	4.51	16 21 10.22	16.5
	η Herculis	33	52.6	55.1	56.8	9.1	10.5	12.2	13.6	15.0	27.0	28.8	31.2	38 11.99	— 0.09	4.50	16 38 16.40	16.0
	α Herculis	34	11.0	13.1	14.3	24.3	25.4	26.6	27.8	28.8	38.7	39.9	41.8	8 26.52	0.04	4.50	17 8 30.98	12.3
	α Ophiuchi	35	21.8	23.9	25.1	35.0	36.0	37.2	38.4	39.5	49.4	50.4	52.5	28 37.21	0.04	4.50	17 28 41.67	+ 12.4
	δ Ursæ Minoris	†36	5.0	39.5	58.5	41.0	59.0	19.5	39.0	57.5	35.5	56.5	30.5	15 18.32	1.69	4.49	18 15 21.12	— 64.3
	α Lyræ	37	54.3	0.8	2.4	14.7	16.0	17.5	19.2	20.5	32.6	34.4	36.8	32 17.56	0.09	4.49	18 32 21.96	+ 9.2
	β Lyræ	38	44.6	47.1	48.5	59.9	1.2	2.7	4.1	5.3	16.7	18.1	20.5	45 2.61	0.08	4.49	18 45 7.02	9.3
	ι Piscium	39	44.5	46.4	47.7	57.4	58.5	59.6	0.9	2.0	11.3	12.6	14.7	32 59.60	— 0.03	4.46	23 33 4.03	11.0
	δ Sculptoris	†40	35.1	37.6	38.8	49.8	51.0	52.5	54.0	55.2	6.1	7.4	9.8	41 52.48	+ 0.02	4.45	23 41 56.95	12.1
	Neptune	41	..	31.0	32.4	41.9	42.9	44.0	45.2	46.3	..	56.9	58.8	32 44.38	— 0.39	4.45	0 32 48.44	..
	O. Arg. 8. 492	†42	37.8	39.1	40.3	41.9	44.5	..	..	..	..	..	..	46 40.72	+ 35.53	4.45	0 47 20.70	11.1
	O. Arg. 8. 498	†43	9.1	10.9	12.2	23.4	24.5	25.6	26.9	28.0	..	..	..	47 20.08	+ 5.24	4.45	0 47 29.77	11.1
	Weisse 891	44	42.8	44.9	46.1	56.0	57.0	58.2	59.4	0.5	10.0	11.1	13.1	51 58.10	— 0.03	4.45	0 52 2.52	11.0
	Weisse 925	45	26.1	28.1	29.4	39.0	40.4	41.5	42.7	43.7	..	..	..	53 36.36	+ 4.97	4.45	0 53 45.78	11.0
	Weisse 931	46	48.0	49.5	51.0	0.5	1.5	2.7	4.2	5.3	14.4	15.8	17.7	54 2.78	— 0.03	4.45	0 54 7.20	11.0
	Santini 64	47	16.0	17.1	18.2	19.5	20.5	..	48.4	50.6	51.8	53.1	54.4	1 34.96	16.87	4.44	1 1 22.53	11.6
	Weisse 39	48	9.3	11.4	12.5	22.3	23.4	24.5	25.7	26.7	36.3	37.5	39.5	4 24.46	0.03	4.44	1 4 28.87	11.5
	Weisse 66	49	0.6	1.6	2.6	3.9	4.9	..	32.9	35.4	36.5	37.8	39.0	6 19.52	16.97	4.44	1 6 6.99	11.2
	Polaris	50	..	..	..	35.0	16.5	6.0	57.5	36.5	..	..	..	11 6.30	— 5.96	+ 4.44	1 11 4.78	+ 11.1

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Nov. 4,	3.0 + 3.55	+ 0.020	— 0.01
	5.5 + 4.18	+ 0.020	
	6, 20.0 + 4.48	— 0.007	— 0.02

8. Blurred.
16. Blurred.
20. Blurred.
23. Blurred.
25. Unsteady.
36. Faint.
40. Blurred.
42–43. Faint.

November 4–5 n. = — 0.08.
5–6. By P. S. P., P., and P. S. P., — 0.08.

November 2, 17h. Image east 0.46. Clamp east.
Image east 0.55. Clamp west.
After a change of level cor:
November 2, 18h. Image east 0.21. Clamp east.
Image east 0.12. Clamp west.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 6	δ Ceti	1	0.9	3.0	4.3	13.7	15.0	16.2	17.3	18.4	28.0	29.2	31.2	17 16.11	— 0.01	+ 4.44	1 17 20.54	+ 11.09
E.	Weisse 56	2	2.5	4.5	5.5	15.5	17.0	18.0	19.0	20.0	29.8	31.1	33.1	5 17.82	0.04	4.44	2 5 22.22	11.65
	Weisse 61	3	..	..	..	47.5	48.9	50.9	6.2	8.4	9.5	10.9	12.1	6 1.80	26.23	4.44	2 5 40.01	11.65
	67 Ceti	4	59.6	1.5	2.7	12.4	13.5	14.6	15.9	16.9	26.3	27.6	29.5	10 14.59	0.01	4.44	2 10 19.02	10.93
	* + 21° 39′	5	..	..	..	4.0	5.1	6.2	7.5	8.8	..	..	..	33 6.32	— 0.10	4.43	2 33 10.65	12.23
	Weisse 615	6	45.9	47.3	48.6	49.8	52.3	..	21.1	22.1	23.1	24.5	25.5	36 6.02	+ 17.18	4.43	2 36 27.63	11.82
	Weisse 728	7	..	..	..	..	..	..	34.3	36.6	37.9	39.1	40.5	43 37.68	— 34.09	4.43	2 43 8.02	11.86
	Weisse 746	8	50.6	52.6	54.0	3.7	4.8	5.9	7.0	8.1	17.9	19.3	21.0	44 5.90	0.04	4.43	2 44 10.29	11.86
	Weisse 841	9	32.7	34.8	36.0	45.6	46.8	48.1	49.3	50.5	0.0	1.3	3.4	48 48.05	0.04	4.43	2 48 52.44	11.85
	Weisse 36	10	41.6	43.9	45.1	55.0	56.1	57.4	58.7	59.7	9.3	10.5	12.5	3 57.26	0.04	4.43	3 4 1.65	11.92
	ζ Arietis	11	52.8	55.3	56.5	..	7.7	9.0	10.3	11.5	21.6	23.0	24.9	7 9.26	0.28	4.43	3 7 13.41	12.39
	Weisse 139	12	..	..	..	10.0	11.3	13.3	28.5	31.0	32.4	33.6	35.0	9 24.39	26.45	4.43	3 9 2.37	11.99
	Weisse 168	13	9.6	11.6	12.7	22.6	23.7	24.9	26.1	27.2	36.9	38.3	40.3	10 24.90	0.04	4.43	3 10 29.29	11.99
	Weisse 228	14	4.4	6.4	7.4	17.0	18.1	19.4	20.6	21.5	30.9	32.2	34.1	13 19.26	0.01	4.43	3 13 23.68	10.94
	Weisse 240	15	47.3	49.4	50.5	0.2	1.3	2.4	3.6	4.6	14.0	15.3	17.2	14 2.35	— 0.01	4.43	3 14 6.77	10.93
	Weisse 575	16	4.8	6.1	7.3	8.7	11.0	..	10.9	13.1	14.4	15.7	17.1	31 40.91	+ 0.21	4.43	3 31 45.55	11.33
	Weisse 580	17	38.1	40.2	41.5	51.0	52.2	53.3	54.4	55.6	5.0	6.1	8.1	1 53.23	— 0.02	4.43	3 1 57.64	11.33
	Weisse (2) 862	18	4.7	7.1	8.5	19.4	20.7	21.9	23.4	24.5	35.1	36.7	38.9	39 21.90	0.07	4.43	3 39 26.26	13.26
	ζ Persei	19	22.0	24.5	25.9	37.2	38.4	39.8	41.2	42.4	53.4	55.0	57.3	45 39.74	— 0.07	4.43	3 45 44.10	13.53
Y.	Polaris, S. P.	20	11.5	45.5	..	..	57.5	6.5	45.0	..	..	37.0	..	6 13.83	+ 4 46.52	4.56	1 11 4.91	11.27
	Venus I	21	57.0	59.0	0.2	10.1	11.2	12.3	13.5	14.6	24.1	25.2	27.4	12 12.24	— 0.01	4.56	13 12 16.79	..
	Venus II	22	36.2	37.5	38.7	39.9	42.5	..	43.2	45.5	46.7	47.9	49.1	12 12.72	+ 0.22	4.56	13 12 17.50	..
	α Virginis	23	47.1	49.3	50.4	0.3	..	2.4	3.6	4.7	14.4	15.6	17.7	18 2.55	— 0.13	4.56	13 18 6.98	13.85
	α Bootis	24	10.7	12.9	14.2	24.4	25.5	26.9	28.1	29.2	39.2	40.4	42.6	9 26.74	0.05	4.58	14 9 31.27	12.60
7	Sun I	25	..	..	..	..	..	..	..	..	26.0	27.5	29.6	50 27.70	— 13.81	4.58	14 50 18.47	..
	Sun II	26	13.6	15.8	17.0	..	..	..	..	..	41.6	42.9	45.0	52 29.32	+ 0.05	4.58	14 52 33.95	..
	Mercury	27	12.6	14.8	16.0	..	..	..	..	..	41.0	42.4	44.6	31 28.57	+ 0.05	4.59	15 31 33.21	..
	α Herculis	28	10.8	12.9	14.2	24.1	25.2	26.4	27.6	28.7	38.5	39.8	41.8	8 26.36	— 0.05	4.59	17 8 30.90	+ 12.31
	δ Ursæ Minoris	†29	4.0	38.0	57.5	41.0	59.0	19.2	39.7	56.2	36.5	58.0	31.0	15 18.19	— 1.86	4.63	18 15 20.96	— 63.93
	α Lyræ	30	31.4	33.2	35.0	36.6	39.7	59.0	1.7	15.6	16.9	..	21.3	31 53.04	+ 25.17	4.64	18 32 22.85	+ 9.25
	β Lyræ	31	44.4	46.9	48.4	59.8	1.0	2.5	4.0	5.2	16.4	18.0	20.3	45 2.45	— 0.09	4.64	18 45 7.00	9.84
	β Aquarii	32	23.5	25.6	26.8	36.4	37.5	38.8	40.0	40.9	50.5	51.7	53.8	48 38.68	0.04	4.65	19 48 43.29	+ 12.39
	λ Ursæ Minoris	33	..	..	..	14.5	10.0	12.0	16.5	9.5	..	..	..	58 12.50	8.22	4.66	19 58 8.94	— 231.00
	Neptune	†34	24.0	26.1	27.3	37.0	38.0	39.2	40.4	41.4	50.9	52.3	54.1	32 39.15	0.03	4.72	0 32 43.84	..
	* + 2° 28′	35	42.8	45.0	46.2	55.9	56.9	58.1	59.4	0.3	9.7	10.9	12.9	37 58.01	— 0.03	4.72	0 38 2.70	+ 11.46
	Weisse 770	36	24.3	26.3	27.5	..	..	..	..	..	..	..	..	44 26.03	+ 13.28	4.72	0 44 44.03	11.45
	Weisse 775	37	..	..	..	9.6	10.8	12.9	27.7	29.9	31.1	32.4	33.7	45 23.51	— 25.77	4.72	0 45 2.46	11.45
	* + 3° 20′	38	6.7	8.9	10.1	19.6	20.6	21.8	23.1	24.1	33.3	34.6	36.6	46 21.76	0.03	4.72	0 46 26.45	11.44
	* + 6° 54′	39	..	..	..	33.0	34.1	35.3	36.5	37.6	47.0	48.4	50.5	51 40.30	— 5.06	4.72	0 51 39.96	11.37
	Piazzi 256	40	2.8	4.9	6.1	..	..	..	..	..	..	..	..	55 4.60	+ 13.36	4.72	0 55 22.68	11.47
	Polaris	†41	..	..	..	41.0	26.0	12.0	0.0	46.0	..	..	..	11 13.00	— 6.37	4.73	1 11 11.36	11.42
	θ Ceti	42	..	..	..	27.6	29.0	30.9	45.9	48.4	49.7	50.8	52.2	17 41.81	26.03	4.73	1 17 20.51	11.10
	o Piscium	43	0.5	2.6	3.9	13.4	14.5	15.7	17.0	17.9	27.5	28.7	30.7	38 15.67	0.04	4.74	1 38 20.37	11.53
	β Arietis	44	54.9	57.2	58.5	8.7	9.9	11.2	12.4	13.7	23.3	25.0	27.2	47 11.09	— 0.06	4.74	1 47 15.77	+ 11.90
	δ Ursæ Minoris, S. P.	45	30.0	54.0	35.0	52.0	35.0	14.5	53.0	38.5	55.0	34.0	1.0	15 14.73	+ 1.86	4.80	18 15 21.39	— 63.75
	51 Cephei	46	..	..	..	..	..	..	13.0	1.0	25.5	49.0	18.0	48 21.30	—11 30.96	4.80	6 36 55.14	+ 107.72
	ζ Geminorum	47	49.5	51.7	53.0	3.3	4.3	5.4	6.7	7.9	18.0	19.4	21.6	56 5.53	0.06	4.81	6 56 10.28	13.72
	(* 132) W.	†48	20.9	23.1	24.4	35.1	36.0	37.2	38.5	39.5	50.1	51.4	53.5	1 37.25	0.07	4.81	7 1 41.99	13.93
	λ Geminorum	†49	3.6	5.9	7.1	17.1	18.1	19.2	20.6	21.7	31.4	32.8	34.9	10 19.31	0.05	4.81	7 10 24.07	13.37
	δ Geminorum	†50	46.4	49.0	50.0	0.4	1.5	2.8	4.0	5.2	15.5	17.1	19.0	12 2.81	— 0.07	+ 4.81	7 12 7.55	+ 13.92

29. Faint.
34. Blurred.
41. Blurred and very unsteady.
48–49. Blurred.
50. Blurred and very unsteady.

November 7. Stars very unsteady.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h.	s.	s.
Nov. 7, 22.4	+ 4.69	+ 0.014	— 0.03

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 7	λ Ursæ Minoris, S. P.	†1	. .	. .	. .	57.0	56.0	56.0	57.5	5.0	. .	. .	. .	57 58.30	+ 8.22	+ 4.82	19 58 11.34	— 230.30
Y.	α Canum Venaticorum	2	19.1	21.7	23.1	35.9	37.0	38.7	40.1	41.5	43.8	45.3	47.9	49 38.55	— 0.10	4.89	12 49	+ 13.25
Tr.	Venus II . . .	3	35.1	36.8	38.1	47.8	48.9	50.1	51.2	52.4	11.8	13.2	15.1	16 50.05	— 0.03	4.73	13 16 54.75	— 0.39
	Polaris, S. P. . .	4	14.0	54.0	7.0	30.0	47.0	57.0	10.0	27.0	2.0	10.0	49.0	10 55.18	+ 4.49	4.73	1 11 4.40	+ 11.61
	α Virginis	5	47.1	49.1	50.3	59.9	1.1	2.3	3.6	4.6	14.1	15.6	17.5	18 2.29	— 0.02	4.73	13 18 7.00	+ 13.83
8	Sun I . . .	6	. .	. .	. .	26.8	28.4	30.5	45.8	48.4	49.4	50.6	52.0	54 41.49	26.92	4.76	14 54 19.33	. .
	Sun II	7	14.5	16.8	18.1	28.2	29.5	30.6	31.8	32.9	42.8	44.0	46.2	56 30.49	0.01	4.76	14 56 35.24	. .
	Mercury, (centre) .	8	28.7	30.7	32.0	42.4	43.6	44.9	46.3	47.3	57.2	58.6	0.9	37 44.78	0.00	4.77	15 37 49.55	. .
	ϵ Ursæ Minoris . .	9	. .	59.0	7.0	19.0	27.0	35.5	44.5	52.0	1.5	11.5	. .	59 35.22	— 0.96	4.79	16 59 39.05	— 16.04
	α Herculis	10	10.7	12.8	14.0	23.9	25.0	26.2	27.5	28.5	. .	39.7	41.7	8 25.00	+ 1.15	4.80	17 8 30.95	+ 12.31
	α Ophiuchi . . .	11	21.5	23.5	24.7	34.6	35.7	36.8	38.1	39.1	. .	. .	. .	28 31.75	+ 5.02	4.80	17 28 41.57	+ 12.42
	δ Ursæ Minoris . .	†12	4.0	37.5	57.0	41.0	58.0	19.0	39.0	55.0	36.0	56.0	31.0	15 17.73	— 2.03	4.82	18 15 20.52	— 63.56
	λ Ursæ Minoris . .	†13	. .	. .	. .	11.5	4.5	8.5	12.0	5.0	. .	. .	. .	58 8.30	8.75	4.85	19 58 4.40	— 229.60
	α^2 Capricorni . . .	14	16.0	18.1	19.3	29.2	30.2	31.6	32.7	34.9	43.5	44.9	46.9	10 31.57	0.02	4.85	20 10	+ 13.97
	γ Pegasi	15	. .	. .	. .	. .	. .	. .	47.2	49.5	50.7	51.9	53.4	6 50.54	34.33	4.92	0 6 21.13	11.42
	12 Ceti	16	52.7	54.7	56.0	5.6	6.7	8.0	9.1	10.2	19.6	20.9	22.9	23 7.85	0.03	4.92	0 23 12.74	11.50
	13 Ceti	17	1.8	3.9	5.1	14.7	15.8	17.0	18.2	19.2	28.6	29.9	31.9	28 16.92	0.03	4.92	0 28 21.81	11.47
	Neptune	18	19.2	21.3	22.5	32.1	33.2	34.4	35.6	36.6	46.0	47.2	49.2	32 34.30	0.04	4.92	0 32 39.18	. .
	β Ceti	19	31.6	33.8	35.1	45.1	46.3	47.6	48.9	50.0	59.7	1.1	3.3	36 47.50	0.04	4.92	0 36 52.38	11.35
	* + 2° 28′ . . .	20	. .	. .	. .	55.5	56.5	57.7	58.9	59.9	9.4	10.7	12.7	38 2.66	5.03	4.92	0 38 2.55	11.46
	Weisse 827 . . .	21	3.7	5.7	6.9	16.7	17.9	19.0	20.2	21.3	30.5	31.9	33.9	48 18.88	0.05	4.93	0 48 23.76	11.47
	Weisse 878 . . .	22	41.5	43.6	44.9	54.4	55.5	56.8	58.0	59.0	8.4	9.8	11.8	50 56.70	0.05	4.93	0 51 1.58	11.47
	Piazzi 256 . . .	23	55.1	57.2	58.4	8.0	9.1	10.3	11.5	12.5	22.0	23.4	25.4	54 10.26	0.05	4.93	0 54 15.14	11.47
	Santini 58 . . .	24	24.0	26.0	27.3	37.1	38.2	39.3	40.5	41.6	51.2	52.5	54.5	55 39.29	0.05	4.93	0 55 44.17	11.45
	Weisse 1034 . .	25	7.4	9.5	10.7	20.4	21.4	22.5	23.9	24.9	34.4	35.8	37.9	59 22.62	0.05	4.93	0 59 27.50	11.49
	Santini 64 . . .	26	. .	. .	. .	15.6	16.5	17.7	18.9	20.0	29.7	31.0	32.8	1 22.78	5.10	4.93	1 1 22.61	11.50
	Weisse 39 . . .	27	8.8	10.8	12.0	21.8	23.0	24.1	25.2	26.3	35.9	37.2	39.2	4 24.03	0.05	4.93	1 4 28.91	11.50
	Polaris	28	. .	. .	. .	36.0	21.0	8.0	59.0	39.0	. .	. .	. .	11 8.60	6.78	4.93	1 11 6.75	11.80
	θ Ceti	29	0.2	2.3	3.6	13.5	14.5	15.7	16.9	17.9	27.4	28.7	30.6	17 15.57	0.03	4.93	1 17 20.47	11.10
	Weisse 820 . . .	30	5.1	7.1	8.3	17.9	18.9	20.2	21.4	22.4	32.0	33.3	35.3	46 20.17	— 0.05	4.94	1 46 25.06	11.52
	Weisse 1018 . .	31	12.3	13.7	15.1	16.3	18.7	34.0	36.0	37.3	. .	. .	. .	57 22.93	+ 26.32	4.95	1 57 54.20	11.53
	Weisse 1022 . .	32	56.9	58.9	0.0	9.9	11.0	12.1	13.4	14.4	24.0	25.4	27.4	58 12.13	— 0.05	4.95	1 58 17.03	11.57
	Weisse 1045 . .	33	13.0	15.0	16.2	26.0	27.0	28.3	29.4	30.5	40.0	41.3	43.4	59 28.19	0.05	4.95	1 59 33.09	11.58
	ξ^1 Ceti	34	35.0	37.1	38.3	48.0	49.2	50.4	51.5	52.6	2.0	3.3	5.3	5 50.25	0.05	4.95	2 5 55.15	11.52
	Moon II	35	42.0	44.0	45.2	55.3	56.5	57.8	59.0	0.1	10.0	11.4	13.3	35 57.69	0.06	5.06	8 36 2.69	. .
	α Hydræ	36	. .	. .	. .	. .	. .	. .	5.8	8.2	9.4	10.6	12.0	40 9.20	33.49	5.06	8 39 40.77	12.73
	α Cancri	37	. .	. .	. .	2.0	3.1	4.3	5.4	6.5	16.2	17.5	19.5	51 9.31	5.16	5.06	8 51 9.21	13.27
	κ Cancri	38	8.6	10.7	12.0	21.8	22.9	24.0	25.2	26.4	36.0	37.4	39.4	0 24.04	0.06	5.07	9 0 29.05	13.18
Y.	α Virginis	39	46.4	48.6	49.7	59.5	0.6	1.8	3.0	4.0	13.7	14.9	17.0	18 1.75	— 0.03	5.25	13 18 6.97	13.78
	Venus I	40	11.3	13.3	14.7	. .	. .	. .	. .	. .	38.4	39.6	41.6	21 26.48	+ 0.01	5.26	13 21 31.75	. .
	Venus II . . .	41	. .	. .	. .	25.0	26.1	27.4	28.6	29.7	. .	. .	. .	21 27.36	— 0.08	5.26	13 21 32.54	. .
	α Bootis	42	10.1	12.4	13.6	23.7	24.9	26.2	27.5	28.6	38.6	40.0	42.1	9 26.15	0.07	5.28	14 9 31.36	12.58
9	α Herculis	†43	10.2	12.3	13.6	23.5	24.6	25.8	27.0	28.0	37.7	39.1	41.0	8 25.71	0.10	5.37	17 8 30.98	+ 12.32
Tr.	λ Ursæ Minoris . .	44	. .	. .	. .	15.0	12.0	14.0	17.0	11.0	. .	. .	. .	58 13.80	14.56	5.46	19 58 4.70	— 228.22
	μ Aquarii	45	4.6	6.5	7.8	17.5	18.6	19.6	20.8	21.9	31.5	32.8	34.9	45 19.68	— 0.02	5.48	20 45 25.14	+ 13.40
Y.	Neptune	46	14.1	16.2	17.5	27.0	28.0	29.3	30.4	31.4	. .	. .	. .	32 24.24	+ 4.91	5.59	0 32 34.74	. .
	ϵ Piscium	†47	39.6	41.8	42.9	52.6	53.8	55.0	56.0	57.1	6.6	7.8	9.8	55 54.82	— 0.07	5.60	0 56 0.35	11.45
	Polaris	48	52.0	16.0	3.0	39.5	. .	8.0	56.0	38.0	3.0	58.0	17.0	11 11.05	14.03	5.61	1 11 2.63	12.21
	ξ^1 Ceti	49	34.4	36.5	37.8	47.3	48.5	49.7	50.9	51.8	1.3	2.6	4.6	5 49.58	— 0.08	+ 5.64	2 5 55.14	+ 11.52

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Nov. 8, 23.8	+ 4.91	+ 0.017	— 0.04

1. Unsteady.
12–13. Faint.
43. Faint.
47. Faint.

November 7–8, n. = — 0.08 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 9	*a* Canis Minoris . .	1	56.9	58.8	0.1	9.8	10.9	12.0	13.3	14.2	23.7	24.8	27.0	32 11.95	— 0.07	+ 5.80	7 32 17.68	+ 12.14
Y.	Weisse 1022 . .	2	55.7	57.8	59.0	9.3	10.5	11.7	13.0	14.2	24.2	25.6	27.8	35 11.71	0.12	5.80	7 35 17.39	13.83
	Lalande 15073 . .	3	51.4	53.6	55.0	5.2	6.3	7.5	8.9	9.9	20.0	21.5	23.6	38 7.54	0.12	5.80	7 38 13.22	13.86
	Weisse 1143 . .	4	40.2	42.5	43.7	54.0	55.1	56.4	57.7	58.9	9.0	10.3	12.5	39 56.39	0.12	5.80	7 40 2.07	13.86
	B. A. C. 2606 . .	5	16.1	19.2	21.1	35.2	36.7	38.5	40.4	41.8	56.0	58.0	0.7	44 38.52	0.28	5.81	7 44 44.05	17.29
	O. Arg. N. 8445 . .	6	21.9	24.9	26.7	40.7	42.4	44.1	45.9	47.3	1.3	2.9	6.0	48 44.01	0.27	5.81	7 48 49.55	17.17
	O. Arg. N. 8459 . .	7	. .	37.9	39.3	53.8	55.3	56.8	58.9	0.3	14.1	15.9	. .	49 56.92	0.28	5.81	7 50 2.45	17.15
	Weisse 1624 . .	8	36.2	38.4	39.4	49.3	50.4	. .	52.8	53.9	3.5	4.8	6.9	55 51.56	0.08	5.81	7 55 57.29	+ 13.00
	λ Ursæ Minoris, S. P.	9	. .	. .	. .	. .	. .	47.0	51.0	47.0	. .	. .	. .	58 48.33	50.16	5.82	19 58 3.99	— 227.54
	Carrington 1187 .	10	. .	. .	. .	14.6	20.7	28.0	36.8	42.4	. .	. .	. .	5 28.50	1.74	5.82	8 5 32.58	+ 40.59
	Weisse 221 . . .	11	52.1	54.3	55.6	5.8	6.9	8.2	9.4	10.5	20.5	21.9	24.0	11 8.11	0.12	5.82	8 11 13.81	13.83
	* + 12° 38′ . .	12	29.8	31.8	33.0	42.8	43.9	45.2	46.4	47.6	57.2	58.4	0.5	14 45.15	0.09	5.82	8 14 50.88	13.14
	Weisse 381 . . .	13	24.8	26.8	28.0	37.8	38.9	40.1	41.4	42.5	52.1	53.4	55.4	15 40.20	0.09	5.82	8 15 45.93	13.14
	Dorpat 1224, (1st *)	14	18.9	21.3	22.7	. .	. .	. .	. .	. .	48.5	49.9	52.2	18 35.58	0.10	5.82	8 18 41.30	14.28
	Dorpat 1224, (2d *)	15	. .	. .	. .	33.4	34.6	35.8	37.4	38.6	. .	. .	. .	18 35.96	0.19	5.82	8 18 41.59	14.28
	Weisse (2) 490 . .	16	34.0	35.9	37.4	47.5	48.5	49.9	51.0	52.1	1.8	3.2	5.2	21 49.68	0.07	5.83	8 21 55.44	13.52
	η Cancri	17	35.5	37.8	38.9	49.4	50.4	51.6	52.9	54.0	4.2	5.4	7.6	24 51.61	0.12	5.83	8 24 57.32	13.89
	B. A. C. 2886 . .	18	40.5	42.8	43.9	54.2	55.4	56.6	57.9	59.0	9.0	10.4	12.4	27 56.55	0.12	5.83	8 28 2.26	13.84
	* + 19° 58′ . .	19	58.1	0.4	1.6	. .	. .	. .	. .	. .	26.6	28.0	30.0	29 14.12	0.08	5.83	8 29 19.87	13.84
	Weisse (2) 713 . .	20	. .	. .	. .	50.7	51.9	53.3	54.5	55.6	. .	. .	. .	29 53.20	— 0.17	5.83	8 29 58.86	13.84
	* + 20° 8′ . . .	21	43.6	45.9	47.1	57.3	58.4	59.6	0.9	1.9	. .	. .	. .	30 54.34	+ 5.16	5.83	8 31 5.33	13.84
	Weisse (2) 762 . .	22	. .	. .	. .	16.0	17.0	18.2	19.4	20.6	. .	. .	. .	31 18.24	— 0.17	5.83	8 31 23.90	13.84
	38 Cancri	23	38.7	40.9	42.2	52.6	53.6	54.9	56.0	57.2	. .	. .	. .	31 49.51	+ 5.16	5.83	8 32 0.50	13.84
	* + 20° 8′ . . .	24	17.0	19.3	20.6	. .	. .	. .	. .	. .	45.6	47.0	49.1	32 33.10	— 0.08	5.83	8 32 38.85	13.85
	* + 20° 8′ . . .	25	. .	. .	. .	32.3	33.4	34.5	35.9	36.9	. .	. .	. .	32 34.60	0.17	5.83	8 32 40.26	13.85
	42 Cancri	26	. .	. .	. .	53.3	54.4	55.8	57.0	58.0	. .	. .	. .	32 55.70	0.17	5.83	8 33 1.36	13.85
	B. A. C. 2925 . .	27	. .	. .	. .	6.6	7.8	9.2	10.5	11.5	. .	. .	. .	33 9.12	0.17	5.83	8 33 14.78	13.85
	* + 20° 8′ . . .	28	31.5	33.7	35.0	45.2	46.4	47.6	48.9	49.9	0.2	1.2	3.5	34 47.55	0.12	5.83	8 34 53.26	13.85
	* + 20° 8′ . . .	29	38.8	41.2	42.4	52.6	53.8	55.0	56.5	57.5	7.4	8.9	10.8	34 54.99	0.12	5.83	8 35 0.70	13.85
	* + 20° 8′ . . .	†30	. .	. .	. .	25.9	26.9	28.0	29.5	30.6	. .	. .	. .	35 28.18	0.04	5.83	8 35 33.97	13.85
	a Cancri	31	48.3	50.2	51.5	1.3	2.3	3.6	4.8	5.8	15.5	16.8	18.8	51 3.54	0.09	5.84	8 51 9.29	13.23
	κ Cancri	32	8.0	10.1	11.3	21.4	22.3	23.5	24.6	25.5	35.3	36.5	38.6	0 23.37	0.09	5.84	9 0 29.12	13.15
	Moon II	33	27.5	29.7	30.9	40.8	41.9	43.2	44.6	45.6	55.4	56.6	58.6	27 43.16	0.08	5.86	9 27 48.94	. .
	10 Leonis	34	. .	. .	. .	59.7	0.9	2.2	3.6	4.6	13.9	15.2	17.2	30 7.16	5.11	5.86	9 30 7.91	12.98
	o Leonis	35	38.5	40.6	41.7	51.5	52.5	53.7	55.0	56.0	5.7	7.0	9.0	33 53.75	0.08	5.86	9 33 59.53	13.20
	e Leonis	36	51.8	54.0	55.3	5.8	6.9	8.3	9.6	10.8	21.2	22.6	24.7	38 8.27	0.14	5.86	9 38 13.99	14.17
	π Leonis	37	46.4	48.5	49.8	59.6	0.6	1.7	3.0	4.0	13.6	14.8	16.8	53 1.71	0.08	5.87	9 53 7.50	13.12
E.	*a* Canum Venaticorum	38	. .	. .	. .	. .	. .	. .	16.2	19.2	20.7	22.4	24.0	50 20.50	— 42.94	5.79	12 49 43.35	13.20
	Polaris, S. P. . .	39	. .	. .	. .	. .	39.5	51.5	3.0	. .	56.5	2.5	43.5	6 22.75	+ 4 38.47	5.79	1 11 7.01	12.42
	a Virginis	40	. .	. .	. .	. .	. .	. .	31.6	34.0	35.3	36.4	37.8	18 35.02	— 33.78	5.79	13 18 7.03	13.80
	Venus I	†41	27.7	29.0	30.5	31.6	34.1	. .	34.8	37.0	38.3	39.5	41.0	26 4.35	+ 0.20	5.79	13 26 10.34	. .
	Venus II . . .	†42	50.1	52.1	53.5	3.2	4.2	5.3	6.6	7.7	17.0	18.4	20.5	26 5.33	— 0.03	5.79	13 26 11.09	. .
	a Bootis	43	23.4	24.4	25.6	26.9	28.0	. .	57.5	59.9	1.3	2.5	3.9	9 43.34	17.77	5.79	14 9 31.36	12.57
10	Sun I	44	1.8	4.0	5.0	15.5	16.5	17.7	19.2	20.2	30.4	31.4	33.2	2 17.72	0.01	5.79	15 2 23.50	. .
	Sun II	45	18.3	20.6	21.8	32.3	33.3	34.3	35.7	36.9	46.4	47.6	49.6	4 34.25	0.01	5.79	15 4 40.03	. .
	a Ophiuchi . . .	46	20.5	22.5	23.8	33.8	34.9	36.1	37.2	38.3	47.8	49.1	51.2	28 35.93	0.08	5.78	17 28 41.63	+ 12.44
	δ Ursæ Minoris . .	47	1.0	35.5	57.5	40.0	57.0	18.0	37.5	53.5	35.5	55.5	29.0	15 16.36	3.04	5.78	18 15 19.10	— 62.86
	a Lyræ	48	58.0	0.5	2.0	14.4	15.7	17.3	18.9	20.2	32.4	34.0	36.5	32 17.26	0.17	5.78	18 32 22.87	+ 9.30
	β Lyræ	49	43.3	45.8	47.1	58.5	59.9	1.3	2.8	4.0	15.4	16.9	19.2	45 1.29	— 0.15	+ 5.78	18 45 6.92	+ 9.89

30. The above stars in Præsepe are given approximately in dec.
41–42. Blurred.

November 9. λ Ursæ and λ Ursæ, S. P., n. = s. —0.18.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Nov. 9, 1.5	+ 5.62	+ 0.030	— 0.05

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 10	λ Ursæ Minoris	†1	..	..	..	11.0	4.0	8.0	11.0	4.0	..	..	..	58 7.60	— 11.93	+ 5.81	19 58 1.48	— 226.36
E.	α^2 Capricorni	2	15.2	17.3	18.6	28.2	29.4	30.6	31.8	32.8	42.7	43.8	46.0	10 30.58	— 0.02	5.81	20 10	+ 14.00
	Neptune	3	9.6	11.7	12.9	22.5	23.5	24.7	..	27.0	36.4	37.7	39.6	32 24.56	+ 0.08	5.77	0 32 30.41	..
	β Ceti	4	30.7	32.9	34.0	44.3	45.4	46.6	47.9	49.1	59.0	0.2	2.4	36 46.59	— 0.01	5.77	0 36 52.35	11.36
	* + 2° 28′	5	41.8	43.8	45.1	54.7	55.7	56.9	58.1	59.0	8.6	9.9	11.8	37 56.85	0.06	5.77	0 38 2.56	11.47
	Weisse 726	6	19.0	20.9	22.1	31.6	32.8	34.0	35.3	36.3	45.8	47.1	49.0	42 33.99	— 0.06	5.77	0 42 39.70	11.47
	Weisse 787	7	24.7	26.8	27.9	37.7	38.7	39.8	40.9	42.0	..	..	..	45 34.81	+ 4.92	5.77	0 45 45.50	11.48
	Weisse 804	8	19.9	22.0	23.0	33.0	34.0	35.0	36.1	37.2	46.7	47.9	49.9	46 34.97	— 0.06	5.77	0 46 40.68	11.47
	O. Arg. S. 492	9	..	..	..	27.6	28.8	31.0	46.7	49.0	50.2	51.6	53.0	47 42.24	27.14	5.77	0 47 20.87	11.19
	O. Arg. S. 498	10	..	..	..	36.6	37.9	40.0	55.5	57.8	59.2	0.4	2.1	47 51.19	27.15	5.77	0 47 29.81	11.21
	Weisse 891	11	41.7	43.7	44.8	54.6	55.6	56.8	58.0	59.0	8.7	9.9	11.8	51 56.78	— 0.07	5.77	0 52 2.48	11.48
	Weisse 925	12	25.0	26.8	28.0	37.8	38.9	39.9	41.2	42.3	..	..	..	53 34.99	+ 4.93	5.77	0 53 45.69	11.49
	Weisse 931	13	46.3	48.4	49.6	59.1	0.3	1.5	2.7	3.8	13.3	14.5	16.5	54 1.45	— 0.07	5.77	0 54 7.15	11.49
	ε Piscium	14	52.5	53.8	54.8	55.9	56.9	..	24.8	27.0	28.4	29.7	31.0	56 11.48	16.82	5.77	0 56 0.43	11.46
• ●	Weisse 22	15	..	..	..	41.1	42.3	44.4	59.4	1.8	3.0	4.3	5.7	3 55.25	26.20	5.77	1 3 34.82	11.52
	Weisse 39	16	20.7	22.1	23.3	24.6	25.7	..	53.5	55.8	57.0	58.3	59.7	4 40.07	16.93	5.77	1 4 28.91	11.51
	Polaris	17	..	..	..	40.0	23.0	11.5	59.0	40.0	..	..	..	11 10.70	9.23	5.77	1 11 7.24	12.64
	Weisse 255	18	28.5	30.5	31.7	41.4	42.4	43.6	44.8	45.8	55.4	56.5	58.5	16 43.55	0.06	5.77	1 16 49.26	11.45
	Weisse 269	19	5.8	7.8	9.1	18.9	19.9	21.0	22.3	23.4	32.7	34.0	35.8	17 20.97	0.06	5.77	1 17 26.68	11.45
	Weisse 328	20	1.7	3.6	4.8	14.5	15.5	16.8	18.0	19.0	28.5	29.9	31.7	20 16.73	0.06	5.77	1 20 22.44	11.46
	Weisse 389	21	18.8	20.8	22.0	31.6	32.7	33.9	35.1	36.2	45.5	46.8	48.8	23 33.84	0.05	5.77	1 23 39.56	11.33
	Weisse 576	22	3.4	5.5	6.6	16.3	17.3	18.5	19.8	20.8	30.2	31.6	33.4	33 18.49	0.06	5.77	1 33 24.20	11.45
	Weisse 612	23	15.0	17.1	18.3	28.0	29.1	30.3	31.4	32.5	42.1	43.3	45.2	34 30.20	0.07	5.77	1 34 35.90	11.47
	o Piscium	24	59.5	1.5	2.8	12.6	13.7	14.8	16.0	17.0	26.6	27.9	29.8	38 14.75	0.07	5.77	1 38 20.45	11.53
	Weisse 812	25	38.4	40.2	41.5	51.0	52.0	53.3	54.4	55.6	4.9	6.3	8.1	45 53.25	0.05	5.77	1 45 58.97	11.18
	Weisse 819	26	58.8	0.9	1.8	11.5	12.6	13.7	14.9	16.0	25.4	26.8	28.6	46 13.73	0.05	5.77	1 46 19.45	11.18
	* — 1° 59′	27	37.1	39.2	40.5	..	..	..	..	..	3.9	5.2	7.2	46 52.18	0.01	5.77	1 46 57.94	11.18
	* — 1° 38′	28	59.5	1.5	2.7	12.4	13.4	14.6	15.9	17.0	26.1	27.5	29.5	52 14.55	0.05	5.77	1 52 50.27	11.17
	* + 9° 24′	29	..	..	..	0.0	1.5	3.5	18.5	20.9	22.1	23.3	24.8	57 14.33	26.12	5.77	1 56 53.98	11.56
	Weisse 1018	30	..	..	..	46.4	47.5	48.7	50.0	51.0	..	..	..	57 48.72	0.12	5.77	1 57 54.37	11.57
	Weisse 1022	31	..	..	..	9.1	10.2	..	12.6	13.6	23.2	24.5	26.5	58 17.10	5.84	5.77	1 58 17.03	11.57
	Weisse 1045	32	12.2	..	15.5	25.3	26.3	27.6	28.9	29.8	39.4	..	42.6	59 27.51	0.07	5.77	1 59 33.21	11.58
	ξ^1 Ceti	33	34.3	36.4	37.7	47.4	48.5	49.6	50.9	51.9	1.4	2.5	4.7	5 49.57	0.07	5.77	2 5 55.27	11.51
	Weisse 615	34	6.8	8.8	10.0	20.0	21.1	22.2	23.4	24.5	34.2	35.5	37.5	36 22.18	0.08	5.77	2 36 27.87	11.80
	α Ceti	35	57.2	59.2	0.4	10.0	11.0	12.2	13.5	14.5	23.9	25.2	27.1	55 12.20	0.06	5.77	2 55 17.91	11.33
	o Leonis	36	38.8	40.6	41.8	51.6	52.7	53.9	55.1	56.2	5.6	7.0	9.2	33 53.86	0.08	5.75	9 33 59.53	13.17
	ε Leonis	37	..	..	..	6.1	7.3	8.4	9.7	10.9	21.2	22.5	24.7	38 13.85	5.59	5.75	9 38 14.01	14.14
	Weisse (2) 832	38	26.9	28.9	30.2	40.2	41.2	42.5	43.8	45.0	54.5	55.9	58.0	39 42.46	0.09	5.75	9 39 48.12	13.56
	Weisse 929	39	12.0	14.3	15.5	25.2	26.4	27.8	29.0	30.2	39.8	41.2	43.2	43 27.69	0.09	5.75	9 43 33.35	13.47
	Rumker 2788	40	..	..	..	36.8	38.2	40.2	55.8	58.0	59.4	0.5	1.9	46 51.35	26.75	5.75	9 46 30.35	13.51
	π Leonis	41	46.5	48.8	49.9	..	..	..	..	..	13.5	14.9	17.0	53 1.77	0.03	5.75	9 53 7.49	13.10
	α Leonis	42	52.5	54.5	55.8	5.6	6.6	7.9	9.0	10.1	19.8	21.2	23.2	1 7.84	0.08	5.75	10 1 13.51	13.28
	Moon II	43	43.9	45.8	46.9	57.3	58.1	59.2	0.4	1.4	11.3	12.4	14.4	16 59.19	0.06	5.75	10 17 4.88	..
	ρ Leonis	44	23.7	25.7	27.0	36.8	37.8	38.9	40.1	41.1	50.8	52.1	54.1	25 38.92	0.07	5.75	10 25 44.60	13.26
	δ Leonis	45	35.9	38.0	39.3	49.8	50.9	52.1	53.4	54.6	4.7	6.1	8.1	6 52.08	0.10	5.75	11 6 57.73	13.78
Tr.	α Canum Venaticorum	46	..	..	..	..	54.6	57.0	16.1	19.1	20.5	22.1	24.1	50 13.36	— 35.83	5.82	12 49 43.35	13.18
	Polaris, S. P.	47	..	..	..	18.0	37.0	48.0	58.0	19.0	..	..	..	10 48.00	+ 10.46	5.82	1 11 4.28	12.86
	α Virginis	48	45.9	48.0	49.2	59.0	0.0	1.2	2.4	3.4	13.2	14.4	16.5	18 1.20	— 0.03	5.82	13 18 6.99	+ 13.78
	Venus II	†49	29.1	31.5	32.5	42.1	43.3	44.5	45.7	47.7	56.3	57.6	59.7	30 44.55	0.03	5.82	13 30 50.34	— 0.38
	α Bootis	50	9.6	11.8	13.1	23.4	24.5	25.9	27.1	28.1	38.1	39.6	41.5	9 25.70	— 0.10	+ 5.82	14 9 31.42	+ 12.56

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 10, 0.6	+ 5.77	— 0.002	— 0.05

1. Steady.
49. Blurred and tremulous.

● November 9–10, n. = — 0.13.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 11	Sun I	†1	5.2	7.4	8.8	18.9	19.9	21.1	22.2	23.7	33.6	35.0	37.0	6 21.16	— 0.01	+ 5.82	15 6 26.97	- -
Tr.	Sun II	†2	22.0	24.4	25.6	35.3	36.5	37.8	38.9	40.0	49.8	51.0	53.4	8 37.70	0.01	5.82	15 8 43.51	- -
	α Ophiuchi	3	- -	- -	- -	33.5	34.7	36.0	37.2	38.2	47.8	49.1	51.1	28 40.95	5.20	5.83	17 28 41.58	+ 12.44
	δ Ursæ Minoris	4	- -	- -	- -	40.0	58.5	18.0	38.5	56.0	- -	- -	- -	15 18.20	4.43	5.83	18 15 19.60	— 72.55
Y.	*γ* Aquilæ	5	31.5	33.6	34.7	44.5	45.7	46.9	48.0	49.0	58.6	59.9	2.0	39 46.76	0.09	5.94	19 39 52.61	+ 12.10
	α Aquilæ	6	53.0	55.0	56.2	5.9	7.1	8.3	9.5	10.5	20.0	21.4	23.3	44 8.20	0.08	5.94	19 44 14.06	12.39
	β Aquilæ	7	22.1	24.3	25.5	34.9	36.1	37.3	38.5	39.5	49.1	50.3	52.4	48 37.27	0.08	5.94	19 48 43.13	+ 12.45
	λ Ursæ Minoris	8	- -	- -	- -	13.0	5.0	8.0	13.0	4.0	- -	- -	- -	58 8.60	14.04	5.94	19 58 0.50	— 225.54
	12 Ceti	9	52.0	54.0	55.2	4.8	5.8	7.1	8.3	9.3	18.7	20.0	22.0	23 7.02	0.05	5.84	0 23 12.81	+ 11.52
	14 Ceti	10	20.1	22.1	23.4	33.0	34.0	35.3	36.4	37.4	46.9	48.2	50.2	28 35.18	0.06	5.84	0 28 40.96	11.50
	15 Ceti	11	53.5	55.5	56.8	6.2	7.3	8.5	9.7	10.9	20.3	21.6	23.5	31 8.53	0.06	5.84	0 31 14.31	11.49
	Neptune	12	5.3	7.2	8.4	18.2	19.2	20.3	21.5	22.5	32.0	33.2	35.3	32 20.28	0.06	5.84	0 32 26.06	- -
	β Ceti	13	30.7	33.0	34.1	44.4	45.4	46.6	47.9	48.9	59.0	0.2	2.4	36 46.60	0.01	5.84	0 36 52.43	11.38
	* + 2° 28′	14	41.7	43.8	45.0	54.5	55.6	56.8	57.9	58.9	8.4	9.7	11.8	37 56.74	0.07	5.84	0 37 2.51	11.48
	* + 3° 33′	15	29.8	31.8	33.0	42.6	43.6	44.8	46.0	47.1	56.6	57.9	59.8	42 44.82	0.07	5.84	0 42 50.59	11.47
	Weisse 800	16	4.3	6.4	7.6	17.2	18.3	19.4	20.7	21.8	31.1	32.4	34.4	46 19.42	0.07	5.84	0 46 25.19	11.47
	Weisse 997	17	24.1	26.0	27.3	37.0	38.1	39.2	40.5	41.5	50.9	52.4	54.3	57 39.23	0.09	5.84	0 57 44.98	11.50
	Polaris	18	- -	- -	- -	38.0	21.0	10.0	57.0	41.0	- -	- -	- -	11 9.40	10.87	5.84	1 11 4.37	13.08
	θ Ceti	19	59.3	1.5	2.6	12.5	13.4	14.6	15.8	16.9	26.5	27.8	29.9	17 14.62	0.04	5.84	1 17 20.42	11.11
	γ Leonis	20	12.3	14.5	15.8	26.0	27.1	28.3	29.7	31.0	40.8	42.1	44.5	12 28.37	0.04	5.86	10 12 34.19	13.89
	Moon II	21	14.5	16.3	17.6	27.6	28.8	30.0	31.3	32.3	41.9	43.1	45.1	4 29.86	0.06	5.86	11 4 35.66	- -
	δ Leonis	22	35.8	38.0	39.3	49.5	50.6	51.9	53.1	54.3	4.5	6.0	8.0	6 51.91	0.03	5.86	11 6 57.74	13.75
	β Leonis	23	50.9	52.9	54.2	4.3	5.4	6.7	7.8	8.8	18.7	20.0	22.1	42 6.53	— 0.04	5.86	11 42 12.35	13.30
	Polaris, S. P.	24	- -	- -	- -	- -	- -	- -	37.0	58.0	13.0	23.0	28.0	48 19.80	+22 38.78	5.87	1 11	13.30
12	*β* Leonis	25	50.3	52.4	53.6	3.5	4.6	5.7	7.2	8.2	18.0	19.2	21.4	42 5.83	— 0.12	6.66	11 42	13.27
	Moon II	26	46.6	48.9	50.1	59.8	0.9	2.1	3.3	4.4	14.0	15.3	17.3	51 2.06	0.07	6.66	11 51 8.65	- -
E.	*α* Canum Venaticorum	27	15.7	18.1	19.6	32.0	33.4	34.8	36.4	37.8	50.0	51.7	54.3	49 34.81	— 0.24	8.85	12 49 43.42	13.13
	Polaris, S. P.	†28	- -	- -	- -	15.5	32.0	43.0	58.0	16.0	- -	- -	- -	10 44.90	+ 12.51	8.86	1 11 6.27	13.71
	α Virginis	29	43.1	45.1	46.4	56.0	57.2	58.5	59.7	0.7	10.3	11.6	13.6	17 58.38	— 0.04	8.86	13 18 7.20	13.74
	Venus I	30	- -	25.9	27.0	28.2	30.5	- -	31.5	33.7	35.0	36.3	37.7	40 5.09	3.89	8.87	13 40 10.07	- -
	Venus II	31	46.6	48.7	50.0	59.7	0.9	2.1	3.3	4.3	13.8	15.1	17.2	40 1.97	0.04	8.87	13 40 10.80	- -
	η Bootis	32	52.6	54.7	56.0	5.7	7.0	8.1	9.3	10.3	19.7	21.1	23.1	48 7.96	0.14	8.87	13 48 16.69	12.99
	α Bootis	33	6.6	9.0	10.2	20.0	21.5	22.6	24.0	25.0	35.1	36.6	38.8	9 22.71	0.14	8.88	14 9 31.45	12.53
13	Sun I	34	11.9	13.9	15.3	25.4	26.5	27.8	28.9	30.0	40.3	41.4	43.5	14 27.72	0.01	8.90	15 14 36.61	- -
	Sun II	35	28.8	30.9	32.2	42.3	43.4	44.6	45.8	46.9	57.1	58.4	0.5	16 44.63	0.01	8.90	15 16 53.52	- -
	Mercury	36	58.7	0.8	2.0	12.4	13.5	14.9	16.2	17.3	27.7	29.1	31.2	9 14.89	0.00	8.91	16 9 23.80	- -
	α Scorpii	†37	44.5	47.0	48.5	58.8	0.1	1.4	2.7	3.7	- -	- -	- -	20 55.84	5.53	8.92	16 21 10.29	+ 16.14
	ε Ursæ Minoris	38	- -	- -	- -	15.0	- -	32.5	- -	49.0	- -	- -	- -	59 32.17	2.19	8.92	16 59 38.90	— 15.58
	α Herculis	39	6.6	8.7	9.9	19.9	20.8	22.1	23.3	24.4	34.2	35.7	37.8	8 22.13	0.12	8.92	17 8 27.93	+ 12.34
	α Ophiuchi	40	17.4	19.4	20.7	30.5	31.5	32.7	34.0	35.1	44.8	45.9	48.0	28 32.73	0.12	8.94	17 28 41.55	+ 12.46
	δ Ursæ Minoris	41	- -	- -	- -	38.0	54.5	15.0	35.5	51.5	- -	- -	- -	15 14.90	5.17	8.95	18 15 18.68	— 61.94
	α Lyræ	42	- -	- -	- -	- -	- -	- -	52.2	55.2	56.7	58.3	0.1	33 56.50	42.74	8.96	18 32 22.72	+ 9.41
	β Lyræ	43	55.6	56.7	58.2	59.6	0.7	- -	33.8	36.5	38.0	39.4	41.0	45 17.95	20.06	8.96	18 45 6.85	10.00
Y.	*γ* Aquilæ	44	28.4	30.5	31.8	41.5	42.6	43.8	45.0	46.0	55.6	56.8	58.9	39 43.72	0.10	8.96	19 39 52.58	12.13
	α Aquilæ	45	49.9	52.0	53.2	2.9	4.0	5.2	6.5	7.4	17.0	18.2	20.3	44 5.15	0.10	8.96	19 44 14.01	12.41
	β Aquilæ	46	19.2	21.2	22.4	32.0	33.1	34.4	35.5	36.6	46.1	47.3	49.4	48 34.29	0.09	8.96	19 48 43.16	+ 12.47
	λ Ursæ Minoris	47	- -	- -	- -	- -	- -	- -	- -	21.0	27.0	34.0	45.0	28 1.75	30 13.95	8.96	19 57 56.76	— 223.08
	α^2 Capricorni	48	11.9	14.1	15.3	25.1	26.2	27.4	28.6	29.7	39.4	40.6	42.8	10 27.37	0.03	8.97	20 10 36.31	+ 14.04
E.	Neptune	†49	53.9	56.1	57.1	6.5	7.5	8.8	10.0	11.0	20.5	21.8	23.8	32 8.82	— 0.08	+ 9.07	0 32 17.81	- -

1-2. Limbs badly defined; tremulous.
28. Tremulous.
37. Very unsteady.
49. Blurred.

November 11. By P. S. P. and P., n. = s. −0.16.
11, 10h. to 14h. . . . +0.08.

November 13. Very bad night.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 11, 23.7	+ 5.84	+ 0.002	— 0.06
13, 19.1	+ 8.97	+ 0.019	— 0.07

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 13 E.	β Ceti	†1	4.6	5.8	7.3	8.7	11.3	27.4	29.5	30.9	. .	. .	. .	36 15.69	+ 27.46	+ 9.08	0 36 52.23	+ 11.39
	* + 2° 28′	†2	38.5	40.5	41.8	51.5	52.5	53.6	55.0	56.0	5.3	6.7	8.5	37 53.63	— 0.08	9.08	0 38 2.63	11.49
	Polaris	†3	15.0	9.0	0.0	53.0	29.0	. .	. .	. .	. .	. .	. .	48 9.20	+22 46.08	9.08	1 11 4.36	13.92
	ϵ Piscium	4	36.3	38.5	39.5	49.3	50.3	51.4	52.7	53.7	3.3	4.6	6.4	55 51.45	— 0.09	9.08	0 56 0.44	11.47
	Moon II	5	4.3	6.4	7.5	17.3	18.5	19.7	20.9	21.9	31.5	32.8	35.0	37 19.62	0.05	9.30	12 37 28.87	. .
Y.	α Canum Venaticorum	6	14.9	17.7	19.1	31.6	32.8	34.2	36.2	37.4	49.4	51.0	52.6	49 34.26	— 0.08	9.31	12 49	13.11
	Polaris, S. P.	7	. .	. .	. .	13.0	30.0	40.0	51.0	9.5	. .	. .	. .	10 40.70	+ 12.51	9.48	1 11 2.69	14.10
	α Virginis	8	42.3	44.6	45.6	55.4	56.5	57.7	58.9	59.9	9.6	10.8	12.9	17 57.65	— 0.04	9.48	13 18 7.09	13.72
	Venus I	†9	5.1	6.3	7.6	8.8	11.3	. .	12.4	14.6	15.9	17.2	18.4	44 41.76	+ 0.19	9.49	13 44 51.44	. .
	Venus II	†10	27.4	29.4	30.7	40.3	41.6	42.8	43.8	45.0	54.7	55.9	57.8	44 42.67	— 0.04	9.49	13 44 52.12	. .
14	α Bootis	11	6.0	8.2	9.3	19.7	20.9	22.2	23.4	24.6	34.5	35.8	38.0	9 22.05	— 0.14	9.49	14 9 31.40	12.52
	Mercury I	†12	18.7	28.0	22.1	. .	. .	. .	. .	. .	47.9	49.2	51.4	15 35.02	+ 0.05	9.51	16 15 44.58	. .
	Mercury II	†13	. .	. .	. .	33.0	34.1	35.5	36.7	37.9	. .	. .	. .	15 35.44	— 0.04	9.51	16 15 44.91	. .
	α Herculis	†14	6.0	8.1	9.4	19.2	20.3	21.4	22.7	23.9	33.6	35.0	36.9	8 21.50	0.12	9.52	17 8 30.90	+ 12.34
	δ Ursæ Minoris	15	0.0	34.5	53.0	36.0	54.0	14.5	35.0	51.5	31.0	53.5	26.0	15 13.55	4.39	9.54	18 15 18.70	— 61.66
	β Lyræ	16	39.5	42.1	43.4	55.0	56.2	57.7	59.1	0.4	11.5	13.1	15.4	44 57.58	0.21	9.54	18 45 6.91	+ 9.35
	γ Pegasi	†17	56.0	58.0	59.4	9.4	10.5	11.7	12.9	14.0	23.7	25.0	27.1	6 11.61	0.12	9.60	0 6 21.09	11.47
	12 Ceti	18	48.1	50.0	51.1	0.9	1.9	3.0	4.3	5.3	14.9	16.2	18.2	23 3.08	0.05	9.60	0 23 12.63	11.54
	Santini 30	19	37.4	39.5	40.7	50.3	51.3	52.5	53.7	54.8	4.2	5.5	7.5	26 52.49	0.08	9.60	0 27 2.01	11.53
	Neptune	†20	2.0	3.1	4.2	5.3	6.4	. .	33.9	36.4	37.5	38.7	40.1	32 20.76	16.71	9.61	0 32 13.66	. .
	* + 2° 28′	21	37.9	39.9	41.0	50.8	51.8	53.0	54.2	55.3	4.7	5.7	7.9	37 52.93	0.08	9.61	0 38 2.46	11.50
	B. A. C. 286	22	7.4	9.6	10.7	20.3	21.6	22.8	23.8	25.0	34.5	35.9	37.8	55 22.67	0.10	9.61	0 55 32.18	11.51
	Santini 58	23	. .	. .	. .	. .	. .	. .	4.8	7.2	8.4	9.6	10.8	56 8.16	33.65	9.61	0 55 44.12	11.51
	Santini 64	24	57.7	59.9	1.0	10.7	11.8	13.0	14.3	15.3	24.8	26.3	28.3	1 13.01	0.10	9.61	1 1 22.52	11.52
	Weisse 55	25	53.0	55.2	56.3	6.7	7.3	8.3	9.6	10.8	20.4	21.6	23.7	5 8.38	0.11	9.61	1 5 17.88	11.55
	Weisse 62	26	. .	. .	. .	32.4	33.5	34.7	35.8	36.9	46.7	48.0	49.9	5 39.74	5.19	9.61	1 5 44.16	11.55
	Polaris	27	15.0	8.5	0.0	52.0	27.0	. .	26.0	1.5	50.0	40.0	35.0	10 55.50	1.36	9.61	1 11 3.75	14.29
	Weisse 188	†28	45.3	47.5	48.7	58.5	59.7	0.9	2.2	3.3	12.7	14.1	16.2	13 0.83	0.12	9.61	1 13 10.32	11.58
	θ Ceti	29	55.6	57.8	58.9	8.5	9.6	10.9	12.1	13.1	22.8	24.0	25.9	17 10.84	0.04	9.61	1 17 20.41	11.12
	Weisse 381	30	44.5	46.5	47.7	57.4	58.4	59.6	0.8	1.8	11.4	12.6	14.6	22 59.57	0.05	9.62	1 23 9.14	11.16
	Weisse 402	31	59.5	1.5	2.7	12.3	13.4	14.6	15.7	16.8	26.3	27.7	29.6	24 14.56	0.05	9.62	1 24 14.13	11.16
	Santini 102	32	14.7	16.8	18.0	27.7	28.7	30.0	31.3	32.3	41.7	43.0	44.9	41 29.92	0.09	9.62	1 41 39.45	11.46
	Weisse 812	33	34.3	36.4	37.5	47.1	18.1	49.4	50.6	51.7	1.0	2.2	4.3	45 49.33	0.06	9.62	1 45 58.89	11.18
	Weisse 819	34	. .	. .	. .	21.5	22.7	24.9	39.6	42.0	43.3	44.5	45.7	46 35.52	25.77	9.62	1 46 19.37	11.18
	ξ^1 Ceti	35	30.6	32.6	33.7	43.5	44.6	45.8	47.0	48.0	57.4	58.9	0.8	5 45.72	0.10	9.62	2 5 55.24	11.50
Tr.	α Canum Venaticorum	36	14.8	17.4	19.0	31.2	32.5	33.9	35.6	36.9	49.3	50.8	53.5	49 34.08	— 0.09	9.57	12 49 43.56	13.08
	Polaris, S. P.	37	. .	. .	. .	22.0	40.0	50.0	1.0	19.0	. .	. .	. .	10 50.40	+ 3.84	9.58	1 11 3.82	14.47
	α Virginis	38	42.2	44.3	45.5	55.0	56.2	57.3	58.5	59.6	9.4	10.6	12.8	17 57.40	0.09	9.58	13 18 7.07	+ 13.70
	Venus II	39	9.4	11.4	12.8	22.2	23.4	24.6	25.8	27.0	36.4	37.8	39.9	49 24.61	0.08	9.58	13 49 34.27	— 0.38
	α Bootis	40	6.0	7.9	9.4	19.4	20.5	21.7	23.0	24.1	34.4	35.7	37.9	9 21.82	0.02	9.59	14 9 31.39	+ 12.50
15	Sun I	41	24.0	25.8	27.2	37.2	38.3	39.6	40.7	42.0	52.2	53.5	55.7	22 39.65	0.12	9.60	15 22 49.37	. .
	Sun II	42	41.3	43.3	45.7	54.7	55.6	56.9	58.2	59.3	9.6	10.6	13.1	24 56.85	+ 0.12	9.60	15 25 6.57	. .
	α Coronæ Borealis	43	33.0	35.1	36.4	47.3	48.3	49.6	50.9	52.1	3.0	4.3	6.5	28 49.68	— 0.04	9.60	15 28 59.24	11.92
	Mercury I	44	17.1	18.6	19.9	21.2	23.7	. .	29.6	32.3	33.5	34.9	36.4	21 56.72	— 0.11	9.60	16 22 6.21	. .
	Mercury II	45	40.5	42.7	44.2	54.5	55.7	56.9	58.1	59.3	9.7	11.1	13.3	21 56.91	+ 0.14	9.60	16 22 6.65	. .
	α Ophiuchi	46	16.7	18.6	20.0	29.6	30.6	31.9	33.1	34.2	44.0	45.3	47.4	28 31.95	0.01	9.61	17 28 41.57	12.47
Y.	α^2 Capricorni	47	11.2	13.2	14.5	24.3	25.3	26.5	27.7	28.8	38.6	39.8	41.9	10 26.53	+ 0.09	9.68	20 10	+ 14.07
	λ Ursæ Minoris	48	. .	. .	. .	. .	. .	. .	31.0	36.5	44.0	53.0	4.0	27 33.70	—29 47.36	9.68	19 57 56.02	— 220.81
Tr.	* — 1° 18′	49	13.8	15.8	17.1	26.4	27.6	28.8	29.9	31.0	40.6	41.9	43.8	26 28.79	+ 0.05	9.68	0 26 38.52	+ 11.54
	14 Ceti	50	33.1	35.1	36.4	47.3	48.2	49.5	50.9	52.1	3.0	4.3	6.5	28 49.67	+ 0.05	+ 9.68	0 28 59.40	+ 11.53

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 14, 20.4	+ 9.56	+ 0.011	— 0.07

1. Blurred and unsteady.
2. Faint.
3. Blurred and unsteady.
9-10. Through haze.
12-13-14. Faint.
17. Unsteady.
20. Faint.
28. Nd. and larger.

s.
November 12-13, n. = — 0.19.
14-15, — 0.19.

r.
November 14, 2h. 30m. Image east 0.20. Clamp west.
Image east 0.48. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 15 Tr.	15 Ceti	1	49.6	51.5	52.7	2.2	3.3	4.5	5.6	6.9	16.4	17.6	19.6	31 4.54	+ 0.05	+ 9.68	0 31 14.27	+ 11.52
	Neptune	2	..	..	..	..	..	..	30.2	32.6	33.9	35.2	36.5	32 33.68	— 33.62	9.68	0 32 9.74	..
	β Ceti	3	26.8	28.8	30.2	40.2	41.3	42.5	43.7	44.8	55.0	56.3	58.3	36 42.54	+ 0.12	9.68	0 36 52.34	11.41
	* + 2° 28′	4	37.9	39.7	41.1	50.6	51.6	52.8	53.9	54.8	4.6	5.7	7.9	37 52.78	0.04	9.68	0 38 2.50	11.50
	Weisse 726	5	14.8	16.8	18.2	27.6	28.6	29.8	30.9	31.9	41.7	43.0	45.1	42 29.76	+ 0.04	9.68	0 42 39.48	11.50
	Weisse 800, (1st *)	6	0.2	2.3	3.7	13.1	14.1	15.4	16.4	17.5	27.2	28.3	30.4	46 15.33	+ 0.04	9.68	0 46 25.05	11.49
	Weisse 800, (2d *)	7	..	..	..	..	..	..	45.4	47.9	49.1	50.2	51.5	46 48.82	— 33.24	9.68	0 46 25.26	11.49
	Weisse 829	8	59.0	0.9	2.2	11.7	12.7	13.9	15.1	16.2	25.9	27.1	29.1	48 13.98	+ 0.03	9.68	0 48 23.69	11.50
	Weisse 878	9	36.9	38.8	40.1	49.6	50.7	51.8	52.9	54.2	3.8	5.0	7.0	50 51.89	0.03	9.68	0 51 1.60	11.50
	Piazzi 256	10	50.4	52.4	53.5	3.1	4.3	5.4	6.6	7.7	17.4	18.6	20.7	54 5.46	0.03	9.68	0 54 15.17	11.50
	Weisse 997	11	15.1	17.0	18.4	27.9	28.9	30.1	31.2	32.4	42.1	43.4	45.5	57 30.18	+ 0.02	9.68	0 57 39.88	11.52
	Polaris	12	..	..	..	31.0	11.0	0.0	48.0	33.0	..	..	..	11 0.60	— 3.84	9.68	1 11 6.44	14.65
	θ Ceti	13	55.5	57.4	58.8	8.2	9.2	10.5	11.7	12.9	22.6	23.7	25.9	17 10.58	+ 0.08	9.69	1 17 20.35	11.12
	Weisse (2) 65	14	32.0	34.0	35.5	45.2	46.4	47.7	48.9	50.1	0.1	1.5	3.5	4 47.72	0.00	9.71	4 4 57.43	12.42
	Psyche	15	0.5	2.5	3.9	13.7	14.9	16.0	17.0	18.5	28.5	29.9	31.9	9 16.12	0.00	9.71	4 9 25.83	..
	γ Tauri	16	46.4	48.5	49.9	59.5	0.7	1.8	3.0	4.3	14.2	15.5	17.5	12 1.94	0.00	9.71	4 12 11.65	12.32
	* + 10° 45′	17	6.6	8.0	9.3	10.5	12.9	..	..	..	..	..	..	40 9.46	+ 33.80	9.72	4 40 52.98	12.02
	* + 10° 43′	18	41.8	43.8	45.0	..	..	..	..	..	9.0	10.2	12.3	40 57.02	— 0.02	9.72	4 41 6.72	12.02
	(* 128) W.	19	..	..	..	57.3	58.2	59.4	0.6	1.7	..	..	..	40 59.44	+ 0.07	9.72	4 41 9.23	12.02
	* + 10° 41′	20	..	..	..	..	..	..	39.5	42.1	43.2	44.5	46.1	41 43.08	— 34.22	9.72	4 41 18.58	12.02
	Weisse (2) 1261	21	50.3	52.5	54.0	4.6	5.8	7.2	8.6	9.8	20.7	22.0	24.3	56 7.25	— 0.04	9.72	4 56 16.93	13.60
	ε Ursæ Minoris, S. P.	22	..	..	..	44.3	46.9	28.2	19.4	11.6	..	..	..	59 28.08	+ 0.69	9.72	16 59 38.49	15.37
	(* 130) W.	23	24.1	26.0	27.3	36.7	37.7	38.9	40.0	41.1	50.9	52.0	54.0	6 38.97	0.04	9.72	5 6 48.73	11.36
	β Orionis	24	42.1	44.1	45.5	55.0	56.0	57.3	58.5	59.6	9.2	10.3	12.6	7 57.29	0.08	9.72	5 8 7.09	10.38
	Pallas	25	39.7	42.0	43.4	54.3	55.5	56.8	58.3	59.5	10.5	11.8	14.1	21 56.90	0.17	9.72	5 22 6.79	..
	* — 29° 42′	26	..	..	..	29.8	30.9	32.3	33.7	34.9	..	..	..	22 32.32	0.22	9.72	5 22 42.26	8.03
	δ Orionis	27	46.1	48.0	49.3	58.7	59.8	1.0	2.2	3.2	12.9	14.0	16.2	25 1.04	+ 0.05	9.72	5 25 10.81	11.16
	Σ Cat. Gen. 599	28	58.0	0.1	1.4	11.6	12.7	14.0	15.2	16.5	26.7	28.0	30.2	28 14.04	— 0.02	9.72	5 28 23.74	13.16
	α Orionis	29	31.4	33.2	34.6	44.1	45.1	46.4	47.6	48.7	58.2	59.5	1.5	47 46.39	+ 0.02	9.73	5 47 56.14	+ 11.95
	δ Ursæ Minoris, S. P.	30	..	..	..	..	..	..	36.0	55.0	35.0	13.0	50.0	5 37.80	+ 9 31.42	9.73	18 15 18.95	— 61.22
	Uranus I	31	41.7	43.3	44.8	45.9	48.7	..	54.1	56.7	58.1	59.5	0.9	14 21.37	— 0.28	9.73	6 14 30.84	..
	Uranus II	32	5.1	7.3	8.7	19.0	20.2	21.4	22.6	23.8	34.3	35.7	38.0	14 21.46	— 0.03	9.73	6 14 31.16	..
	γ Geminorum	33	33.7	35.7	37.1	46.9	48.0	49.3	50.5	51.7	1.7	3.0	5.2	29 49.35	0.00	9.73	6 29 59.08	+ 12.97
Y.	Polaris, S. P.	34	..	..	..	21.0	40.0	48.5	3.0	18.5	43.5	57.5	35.5	7 25.94	+ 3 28.26	10.08	1 11 4.28	14.82
	α Virginis	35	41.6	43.7	45.0	54.7	55.7	56.8	58.0	59.2	9.0	10.2	12.2	17 56.92	0.09	10.09	13 18 7.10	13.68
	Venus I	36	51.4	53.3	54.6	4.3	5.3	6.6	7.6	8.7	18.6	19.7	21.6	54 6.52	+ 0.08	10.11	13 54 16.71	..
	Venus II	37	30.5	31.9	33.3	34.5	36.8	..	38.1	40.4	41.7	43.0	44.4	54 7.46	— 0.15	10.11	13 54 17.42	..
	α Bootis	38	5.5	7.7	9.0	19.0	20.2	21.4	22.5	23.8	34.0	35.3	37.4	9 21.44	— 0.02	10.12	14 9 31.54	+ 12.49
16	Sun I	39	31.1	33.0	34.4	44.4	45.6	46.7	48.1	49.2	59.2	0.7	2.7	26 46.83	+ 0.12	10.17	15 26 57.12	..
	Sun II	40	48.6	50.5	51.9	2.0	3.0	4.3	5.5	6.7	16.8	18.1	20.1	29 4.32	+ 0.12	10.17	15 29 14.61	..
	Mercury I	41	38.4	39.8	41.1	42.7	44.9	..	51.1	53.8	55.1	56.7	58.0	28 18.16	— 0.28	10.21	16 28 28.09	..
	Mercury II	42	1.7	3.9	5.2	15.7	16.8	18.3	19.7	20.8	31.2	32.4	34.7	28 18.22	0.03	10.21	16 28 28.40	..
	ε Ursæ Minoris	43	38.0	52.5	2.0	12.0	20.0	29.0	37.0	45.5	56.5	5.2	20.0	59 28.88	1.03	10.23	16 59 38.08	— 15.33
	α Herculis	44	5.2	7.2	8.5	18.2	19.3	20.4	21.7	22.8	32.8	34.0	36.3	8 20.58	0.00	10.23	17 8 30.81	+ 12.35
	δ Ursæ Minoris	45	57.0	29.0	51.0	32.0	48.5	8.5	29.0	47.5	29.5	48.7	24.0	15 9.52	— 2.36	10.28	18 15 17.44	— 61.08
E. 17	α Herculis	46	4.0	6.1	7.2	17.2	18.2	19.2	20.5	21.8	31.7	32.8	34.9	8 19.42	+ 0.04	11.44	17 8 30.90	+ 12.35
	α Ophiuchi	47	14.7	16.8	18.1	27.8	28.8	30.0	31.2	32.4	42.2	43.4	45.5	28 30.07	+ 0.04	11.45	17 28 41.56	+ 12.47
	δ Ursæ Minoris	48	..	..	..	30.0	46.5	7.5	28.0	45.0	..	..	..	15 7.40	— 1.41	11.47	18 15 17.46	— 60.79
	α Lyræ	49	52.2	54.6	56.7	8.5	9.6	11.3	12.8	14.0	26.5	28.0	30.5	32 11.34	— 0.06	+11.47	18 32 22.75	+ 9.41

45. Steady.

November 15–16, n. = s. — 0.19.
16–17, — 0.22.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 15, 22.5	+ 9.66	+ 0.009	+ 0.05
14.9	+ 10.15	+ 0.037	+ 0.07

DATE.		OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n. 1870.0
1865.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 17	β	Lyræ	1	37.5	39.8	41.3	52.7	. .	55.4	. .	57.9	9.5	10.8	13.3	44 55.36	— 0.05	+11.48	18 45 6.79	+ 9.99
Y.	γ	Aquilæ	2	25.8	27.7	29.1	38.7	39.7	41.0	42.1	43.2	52.9	54.2	56.2	39 40.96	+ 0.05	11.52	19 39 52.53	12.1
	α	Aquilæ	3	47.1	49.3	50.5	0.0	1.1	2.3	3.6	4.6	14.3	15.5	17.5	44 2.35	+ 0.06	11.52	19 44 13.93	12.46
	β	Aquilæ	4	29.2	30.2	31.4	32.6	33.7	. .	1.8	4.3	5.6	6.8	8.1	48 48.37	— 16.82	11.52	19 48 43.07	12.33
	α^2	Capricorni	5	9.3	11.4	12.7	22.4	23.3	24.5	25.8	26.9	36.7	37.9	40.0	10 24.63	+ 0.14	11.53	20 10 36.30	+ 14.09
	λ	Ursæ Minoris	6	. .	. .	. .	. .	. .	. .	20.5	26.0	35.0	43.0	53.0	27 23.50	—29 46.74	11.54	19 57 48.30	— 218.58
E.		Weisse 39	7	. .	. .	. .	14.9	15.9	17.3	18.4	19.5	29.3	30.5	32.5	4 22.29	4.98	11.63	1 4 28.94	+ 11.53
		Polaris	8	. .	. .	. .	25.0	4.0	54.0	42.5	25.0	. .	. .	. .	10 54.10	3.42	11.63	1 11 2.31	15.33
		Weisse 208	9	. .	. .	. .	. .	. .	. .	32.4	34.7	36.1	37.4	38.8	14 35.88	34.25	11.63	1 14 13.26	11.56
	θ	Ceti	10	6.4	7.4	8.6	9.8	11.0	. .	39.3	41.8	43.0	44.1	45.5	17 25.69	16.87	11.64	1 17 20.46	11.13
		Weisse 362	11	. .	. .	. .	3.1	4.0	5.1	6.4	7.5	17.3	18.5	20.5	22 10.30	4.88	11.64	1 22 17.06	11.14
		Weisse 381	12	56.0	57.3	58.5	59.5	9.1	10.4	27.8	30.2	31.5	32.7	34.0	23 15.18	— 17.73	11.64	1 23 9.09	11.18
		Weisse 402	13	57.4	59.5	0.6	10.2	11.2	12.4	13.5	14.6	24.4	25.5	27.4	24 12.43	+ 0.11	11.64	1 24 24.18	11.17
		Weisse 612	14	9.0	11.0	12.0	21.8	22.8	24.0	25.0	26.3	35.9	37.0	39.1	34 23.99	0.06	11.64	1 34 35.69	11.48
	o	Piscium	15	53.6	55.6	56.9	6.3	7.4	8.5	9.7	10.9	20.5	21.6	23.7	38 8.61	0.06	11.64	1 38 20.31	11.54
		* + 6° 58′	†16	39.2	41.2	42.5	52.1	53.1	54.2	55.5	56.5	. .	. .	. .	40 49.30	5.08	11.64	1 41 6.02	11.47
		* + 6° 59′	17	6.7	8.6	9.8	19.6	20.7	21.8	22.8	24.0	33.9	35.0	36.8	41 21.79	0.06	11.64	1 41 33.49	11.47
		Santini 102	18	12.7	14.7	16.0	25.4	26.5	27.6	28.6	29.9	39.7	40.8	43.0	41 27.72	0.06	11.64	1 41 39.42	11.47
		Weisse 772	19	37.1	39.1	40.4	50.0	51.0	52.1	53.3	54.3	4.2	5.2	7.3	43 52.18	+ 0.06	11.65	1 44 3.89	11.51
		* + 7° 50′	20	. .	. .	. .	19.3	20.7	22.7	37.9	40.4	41.5	42.8	44.0	44 33.66	— 26.19	11.65	1 44 19.12	11.51
		Weisse 819	21	52.5	54.5	. .	5.4	6.5	7.6	8.8	9.9	. .	20.7	22.7	46 7.62	+ 0.11	11.65	1 46 19.38	11.15
		Weisse 831	22	. .	. .	. .	43.8	44.9	46.1	47.2	48.2	58.0	59.2	1.2	46 51.08	— 4.86	11.65	1 46 57.87	11.14
		Weisse 843	23	13.1	15.1	16.3	25.9	27.0	28.1	29.3	30.3	39.9	40.9	43.2	47 28.10	+ 0.10	11.65	1 47 39.85	11.14
		* — 1° 38′	24	53.5	55.6	56.8	6.7	7.3	8.4	9.6	10.6	20.6	21.6	23.6	52 8.54	0.10	11.65	1 52 20.29	11.14
	α	Arietis	25	11.1	13.1	14.5	24.8	25.9	27.2	. .	29.6	40.0	41.3	43.5	59 27.10	0.13	11.65	1 59 38.88	12.08
Tr.		Polaris, S. P.	26	55.0	36.0	41.0	15.0	35.0	47.0	59.0	14.0	41.0	52.0	32.0	10 44.27	5.30	12.05	1 11 1.62	15.50
	α	Virginis	27	39.7	41.7	43.1	52.6	53.8	54.8	56.1	57.2	7.0	8.2	10.4	17 54.96	0.13	12.06	13 18 7.15	+ 13.64
		Venus II	28	18.7	20.9	22.2	31.7	32.9	34.2	35.3	36.3	46.0	47.4	49.4	3 34.09	0.13	12.06	14 3 46.28	— 0.38
	α	Bootis	29	3.6	5.6	7.0	17.0	18.0	19.4	20.6	21.7	32.0	33.3	35.4	9 19.42	0.02	12.06	14 9 31.50	+ 12.46
18		Sun I	30	47.1	49.2	50.6	0.7	1.7	2.9	4.4	5.5	15.5	16.8	19.0	35 3.04	0.17	12.08	15 35 15.29	. .
		Sun II	31	5.2	7.3	8.6	18.4	19.5	20.8	22.2	23.4	33.5	34.9	37.1	37 20.99	+ 0.17	12.08	15 37 33.24	. .
	α	Herculis	32	. .	. .	. .	16.5	17.5	18.8	20.0	21.1	31.1	33.3	34.4	8 23.96	— 5.08	12.09	17 8 30.97	12.35
	α	Ophiuchi	33	14.1	16.1	17.3	27.1	28.0	29.2	30.5	31.6	41.5	42.8	44.7	28 29.35	+ 0.04	12.09	17 28 41.48	+ 12.48
Y.	λ	Ursæ Minoris	34	. .	. .	. .	. .	. .	. .	31.0	39.0	45.0	52.0	3.0	27 34.00	—29 46.74	12.12	19 57	— 217.44
Tr.	θ	Piscium	35	43.6	45.5	46.7	56.2	57.4	58.5	59.6	0.8	10.4	11.6	13.7	20 58.55	+ 0.07	12.15	23 21 10.77	+ 11.70
	ι	Piscium	36	36.9	38.7	40.0	49.6	50.6	51.7	52.9	54.0	3.6	4.9	6.9	32 51.80	+ 0.07	12.15	23 33 4.02	11.82
E. 23	α	Virginis	37	38.9	40.9	42.2	52.0	53.0	54.3	55.5	56.6	6.1	7.5	9.5	17 54.23	— 0.11	13.28	13 18 7.40	13.49
		Polaris, S. P.	38	40.5	44.5	53.5	0.0	24.0	. .	. .	. .	. .	. .	. .	33 44.50	—22 58.84	13.28	1 10 58.94	18.32
		Venus I	39	43.9	45.4	46.7	48.0	50.6	. .	52.5	54.8	56.1	57.4	58.8	32 21.42	+ 0.11	13.28	14 32 34.81	. .
		Venus II	40	7.0	8.9	10.2	20.3	21.3	22.4	23.7	24.8	34.4	35.9	37.9	32 22.44	— 0.12	13.28	14 32 35.60	. .
	ε	Bootis	41	. .	. .	. .	50.6	51.9	53.3	54.6	55.7	6.3	7.8	9.7	38 58.74	5.66	13.28	14 39 6.36	+ 12.13
24		Sun I	42	. .	. .	. .	. .	. .	. .	47.4	50.0	51.3	52.5	53.7	0 50.98	35.71	13.29	16 0 28.56	. .
		Sun II	43	18.6	20.9	22.2	32.6	33.5	34.7	36.0	37.3	47.5	48.9	51.0	2 34.84	— 0.14	13.29	16 2 47.99	. .
	ε	Ursæ Minoris	44	32.5	47.2	56.5	7.5	16.0	24.5	33.5	40.5	51.0	1.0	14.5	59 24.06	+ 0.21	13.29	16 59 37.56	— 14.68
	α	Herculis	45	. .	. .	. .	29.7	31.0	33.0	48.4	50.8	52.1	53.5	54.7	8 44.15	— 26.61	13.29	17 8 30.83	+ 12.35
	α	Ophiuchi	46	13.0	15.0	16.2	25.9	27.1	28.2	29.6	30.6	40.2	41.5	43.6	28 28.26	0.07	13.29	17 28 41.48	+ 12.49
	δ	Ursæ Minoris	47	25.0	42.0	3.0	22.5	39.5	. .	28.0	0.5	26.5	47.0	10.5	19 42.45	— 4 40.54	13.29	18 15 15.20	— 58.64
	α	Lyræ	48	50.0	52.6	54.3	6.6	8.0	. .	10.9	12.2	. .	. .	. .	32 2.09	+ 7.41	+13.29	18 32 22.79	+ 9.51

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 17, 21.3	+ 11.54	+ 0.024	+ 0.09
18, 18.2	+ 12.10	+ 0.009	+ 0.09

16. Faint.

November 18, n. = — 0.22.
23-24, + 0.12.

November 19, 15h. Image east 0.45. Clamp east.
0.00. Clamp west.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 24	ζ Aquilæ	1	45.5	47.4	48.6	..	..	..	31.6	33.8	35.1	36.4	37.8	59 17.03	— 16.28	+13.29	18 59 14.04	+ 12.07
Y.	γ Aquilæ	2	23.8	26.0	27.3	37.0	38.1	39.3	40.5	41.6	51.1	52.4	54.5	39 39.24	0.07	13.33	19 39 52.50	12.26
	α Aquilæ	3	45.4	47.5	48.7	58.4	59.4	0.8	2.0	3.0	12.5	13.7	15.8	44 0.65	0.07	13.33	19 44 13.91	12.43
	β Aquilæ	4	14.6	16.7	17.9	27.5	28.6	29.8	31.1	32.1	41.5	42.8	44.9	48 29.77	0.08	13.33	19 48 43.02	+ 12.61
	λ Ursæ Minoris	†5	..	..	..	..	..	..	52.0	56.0	59.0	2.0	14.0	26 48.60	29 13.91	13.33	19 57 48.02	— 209.94
	a^2 Capricorni	6	7.5	9.7	10.9	20.8	21.9	23.1	24.3	25.4	35.0	36.4	38.2	10 23.02	0.12	13.33	20 10 36.23	+ 14.17
	ε Aquarii	7	56.0	58.0	59.3	9.0	10.1	11.3	12.5	13.6	23.2	24.4	26.4	40 11.25	0.11	13.33	20 40 24.47	13.60
	μ Aquarii	8	56.2	58.4	59.6	9.4	10.5	11.6	12.8	13.9	23.4	24.7	26.7	45 11.56	0.11	13.33	20 45 24.78	13.61
	Moon I	9	11.7	13.8	15.0	25.1	26.2	27.5	28.7	29.7	39.5	41.0	43.0	13 27.38	0.12	13.33	21 13 40.59	..
E.	Neptune	10	..	..	..	..	..	..	55.4	57.6	59.0	0.2	1.6	31 58.76	33.31	13.29	0 31 38.74	..
	β Ceti	11	23.1	25.4	26.6	36.8	37.9	39.1	40.4	41.5	51.3	52.8	54.8	36 39.06	0.14	13.29	0 36 52.21	11.49
	* + 2° 28′	12	34.2	36.3	37.4	47.0	48.1	49.2	50.4	51.5	1.0	2.1	4.1	37 49.21	0.09	13.29	0 38 2.41	11.57
	Weisse 726	13	11.2	13.3	14.4	24.0	25.0	26.4	27.5	28.5	38.0	39.4	41.2	42 26.26	— 0.08	13.29	0 42 39.47	11.56
	Weisse 787	14	55.7	56.9	58.1	59.4	1.9	..	30.0	31.1	32.2	33.5	34.4	45 15.32	+ 16.81	13.29	0 45 45.42	11.56
	Weisse 804	15	12.3	..	15.5	25.3	26.3	27.3	28.5	29.6	39.1	..	42.4	46 27.37	— 0.08	13.29	0 46 40.58	11.56
	Weisse 891	16	34.0	36.0	37.3	46.8	48.0	49.2	50.3	51.4	1.0	2.3	4.2	51 49.14	0.08	13.29	0 52 2.35	11.56
	Weisse 925	17	17.2	19.3	20.5	30.1	31.2	32.4	33.6	34.7	44.2	45.5	47.5	53 32.42	— 0.07	13.29	0 53 45.64	11.57
	Weisse 931	18	38.7	40.7	41.9	51.5	52.6	53.9	55.0	56.1	..	..	..	53 48.80	+ 4.94	13.29	0 54 7.03	11.57
	Weisse 997	19	..	..	..	24.4	25.5	26.5	27.8	28.8	38.5	39.8	41.7	57 31.63	— 5.12	13.29	0 57 39.80	11.57
	Weisse 1034	20	..	..	..	12.2	13.2	14.3	15.7	17.0	26.1	27.5	29.4	59 19.43	— 5.12	13.29	0 59 27.60	11.57
	Weisse 55	21	49.4	51.4	52.6	..	..	..	..	..	..	..	..	4 51.13	+ 13.50	13.29	1 5 17.92	11.60
	Weisse 62	22	15.6	17.7	19.0	28.8	30.0	31.2	32.3	33.4	43.0	44.3	46.3	5 31.05	— 0.07	13.29	1 5 44.27	11.60
	Polaris	23	..	..	..	13.5	59.0	44.5	34.0	15.5	..	..	..	10 45.30	0.66	13.29	1 10 57.93	18.63
	Weisse 362	24	48.8	50.9	52.1	1.7	2.8	4.0	5.2	6.2	15.7	16.9	19.0	22 3.94	0.10	13.29	1 22 17.13	11.21
	Weisse 381	25	40.7	42.8	44.0	53.9	54.9	56.0	57.2	58.3	7.7	9.0	11.0	22 55.95	0.10	13.29	1 23 9.14	11.20
	η Piscium	26	51.3	53.4	54.6	4.5	5.6	6.8	8.1	9.2	18.9	20.3	22.3	24 6.82	— 0.06	13.29	1 24 20.05	11.68
	Weisse 820	27	34.9	36.2	37.5	38.8	41.3	..	..	..	..	..	..	45 37.74	+ 33.95	13.30	1 46 24.99	11.54
	Weisse 831	28	29.7	31.5	32.8	42.5	43.5	44.6	45.9	47.0	56.4	57.6	59.6	46 44.65	— 0.09	13.30	1 46 57.86	11.20
	* — 1° 38′	29	52.0	54.0	55.2	4.8	6.0	7.1	8.3	9.4	18.8	20.0	22.0	52 7.05	0.09	13.30	1 52 20.26	11.19
	* + 21° 33′	30	41.4	43.6	44.8	55.1	56.3	57.5	58.8	0.0	10.1	11.4	13.6	32 57.51	0.05	13.30	2 33 10.76	12.16
	Weisse 805	31	24.8	26.9	28.3	38.7	39.8	41.1	42.5	43.6	53.7	55.2	57.2	33 41.07	0.05	13.30	2 33 54.32	12.17
	γ Ceti	32	..	..	..	21.4	22.6	24.4	39.4	41.9	43.1	44.3	45.5	36 35.33	25.81	13.30	2 36 22.82	11.20
	Psyche	33	54.5	56.9	58.2	8.0	9.0	10.3	11.6	12.6	22.4	23.6	25.4	1 10.23	0.06	18.30	4 1 23.47	..
	* + 15° 40′	34	..	..	..	27.5	28.9	30.8	46.7	48.8	50.2	51.4	52.7	1 42.13	26.75	13.30	4 1 28.68	12.16
	Weisse 183	35	49.0	51.2	52.4	2.5	3.6	4.7	6.0	7.2	17.1	18.4	20.5	10 4.78	0.06	13.30	4 10 18.02	12.37
	γ Tauri	36	..	..	..	10.4	11.8	13.8	29.4	31.8	33.0	34.3	35.6	12 25.01	26.70	13.30	4 12 11.61	12.20
Tr.	Polaris, S. P.	37	41.0	43.0	51.0	0.0	21.0	..	..	..	..	..	..	33 43.20	22 56.07	13.57	1 11 0.70	18.95
	α Bootis	38	2.0	4.3	5.5	15.8	16.9	18.2	19.5	20.7	30.5	32.1	34.2	9 18.15	0.08	13.56	14 9 31.63	+ 12.33
	Venus II	39	58.6	0.7	1.9	12.0	13.0	14.5	15.5	16.5	26.2	27.5	29.6	37 14.18	0.11	13.55	14 37 27.62	— 0.38
	ε Bootis	40	50.3	51.6	52.9	54.4	55.4	..	26.6	29.2	30.6	32.0	33.5	39 11.65	18.84	13.55	14 39 6.36	+ 12.12
25	Sun I	41	..	..	..	27.7	28.8	30.1	31.6	33.0	..	..	..	4 30.24	0.17	13.53	16 4 43.60	..
	Sun II	42	33.6	35.8	37.1	47.4	48.5	49.9	51.3	52.4	2.3	3.7	5.8	6 49.80	0.12	13.53	16 7 3.21	..
	ε Ursæ Minoris	43	..	..	..	8.3	16.0	25.0	33.8	41.2	..	..	..	59 24.86	0.50	13.52	16 59 37.88	— 14.63
	Mercury I	†44	45.4	47.7	49.3	59.7	1.2	2.5	3.8	4.7	15.4	17.1	19.3	25 2.37	— 0.12	13.51	17 25 15.76	..
	Mercury II	†45	22.4	23.7	25.2	26.6	29.2	..	36.3	38.7	40.0	41.2	43.0	25 2.63	+ 0.13	13.51	17 25 16.27	..
	α Ophiuchi	46	12.7	14.8	16.1	26.9	26.9	28.1	29.4	30.4	40.2	41.6	43.5	28 28.15	— 0.08	13.51	17 28 41.58	+ 12.49
	δ Ursæ Minoris	47	..	..	..	26.0	43.0	4.0	24.0	42.0	..	..	..	15 3.80	1.46	13.50	18 15 15.84	— 58.38
	α Lyræ	48	49.9	52.5	54.1	6.4	7.8	9.1	10.8	12.3	24.2	25.8	28.3	32 9.20	0.07	13.50	18 32 22.63	+ 9.52
	ζ Aquilæ	49	45.1	47.2	48.5	58.3	59.4	0.6	1.8	3.0	12.7	14.0	16.0	59 0.60	0.08	13.49	18 59 14.01	12.08
Y.	μ Aquarii	50	..	58.2	59.4	9.2	10.3	11.5	12.6	13.7	23.3	24.6	..	45 11.42	— 0.11	+13.53	20 45 24.84	+ 13.62

5. Very faint.
44–45. Tremulous and blurred.

November 24–25, n. = $+0^{s}.05$.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 24, 20.5	+ 13.29	+ 0.001	— 0.09
25, 20.6	+ 13.47	— 0.014	— 0.09

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n 1870.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 25	β Aquarii	1	1.1	3.2	4.4	14.1	15.2	16.4	17.6	18.6	28.1	29.5	31.5	24 16.34	— 0.10	+13.52	21 24 29.76	+ 13.07
Y.	ξ Aquarii	2	7.9	10.0	11.1	20.9	22.0	23.2	24.4	25.5	35.0	36.3	38.3	30 23.15	0.10	13.52	21 30 36.57	13.19
	Moon I	3	25.5	27.8	28.8	38.9	40.0	41.1	42.4	43.5	53.2	54.6	56.6	7 41.13	0.10	13.51	22 7 54.54	. .
	θ Aquarii	4	16.8	18.9	20.0	29.7	30.8	32.0	33.3	34.4	43.8	45.1	47.1	9 31.99	0.10	13.51	22 9 45.40	12.87
	γ Aquarii	5	15.4	17.5	18.7	28.3	29.4	30.6	31.8	32.8	42.2	43.4	45.5	14 30.51	0.09	13.51	22 14 43.93	12.47
Tr.	γ Pegasi	6	52.2	54.2	55.4	5.3	6.4	7.7	8.9	10.0	19.6	21.1	23.2	6 7.73	0.08	13.42	0 6 21.07	11.57
	12 Ceti	7	44.1	46.1	47.4	57.0	58.2	59.4	0.5	1.6	11.0	12.2	14.2	22 59.25	0.09	13.42	0 23 12.58	11.64
	Neptune	†8	7.5	9.5	10.7	20.5	21.6	22.7	23.8	25.0	34.5	35.6	37.7	31 22.65	0.09	13.42	0 31 35.98	. .
	β Ceti	9	3.0	5.2	6.5	36.7	37.7	39.1	40.2	41.4	51.3	52.6	54.8	36 38.96	0.11	13.41	0 36 52.26	11.59
	*+2° 28′	10	34.0	36.0	37.1	47.0	48.0	49.0	50.3	51.4	0.8	2.2	4.1	37 49.08	— 0.09	13.41	0 38 2.40	11.58
	Polaris	11	54.0	51.0	43.0	34.0	11.0	. .	. .	. .	. .	. .	. .	47 50.60	+22 56.21	13.41	1 11 0.22	19.26
	*+15° 36′	†12	38.6	40.0	41.1	42.5	45.2	. .	47.5	49.8	51.0	52.3	53.9	0 16.19	+ 0.16	13.37	4 0 29.72	12.14
	Psyche	†13	4.2	6.0	7.3	17.6	18.4	19.9	21.1	22.2	31.9	33.3	35.4	0 19.76	— 0.08	13.37	4 0 33.05	. .
	γ Tauri	14	42.7	44.8	46.0	56.0	57.1	58.2	59.6	0.7	10.6	11.8	13.8	11 58.30	0.08	13.36	4 12 11.58	12.19
E. 26	γ Aquarii	15	15.2	17.2	18.4	28.1	29.0	30.2	31.4	32.5	41.8	43.0	45.3	14 30.19	0.07	13.77	22 14 16.49	12.48
	ζ Pegasi	16	. .	. .	. .	45.0	46.4	48.4	3.5	5.8	7.1	8.2	9.6	34 59.25	26.17	13.77	22 34 46.85	11.81
	Moon I	17	14.5	15.5	16.7	17.9	19.0	. .	47.3	49.7	51.0	52.2	53.5	2 33.73	17.12	13.76	23 2 30.37	. .
	γ Piscium	18	44.5	46.6	47.9	57.5	58.6	59.8	0.9	2.0	11.3	12.7	14.7	9 59.68	— 0.07	13.76	23 10 13.37	12.17
	κ Piscium	19	14.0	15.2	16.4	17.8	20.2	35.4	37.5	38.6	. .	. .	. .	19 24.39	+ 25.94	13.76	23 20 4.09	12.01
	θ Piscium	20	41.8	43.7	44.9	54.8	55.9	57.0	58.2	59.1	8.7	10.0	12.0	20 56.92	— 0.07	13.76	23 21 10.61	11.80
	Polaris, S. P.	21	34.5	38.0	48.5	55.0	20.5	. .	. .	. .	. .	. .	. .	33 39.30	22 54.97	14.24	1 10 58.57	20.29
	η Bootis	22	46.9	49.0	50.2	. .	. .	. .	. .	. .	15.3	16.7	18.6	48 2.78	0.03	14.24	13 48 16.99	12.72
	α Bootis	23	1.6	3.7	5.1	15.3	16.3	17.6	18.7	19.9	30.0	31.4	33.5	9 17.55	— 0.07	14.24	14 9 31.72	12.29
	Venus I	24	21.8	23.2	. .	25.7	28.2	. .	30.4	33.0	. .	35.5	36.8	47 59.33	+ 0.16	14.22	14 48 13.71	. .
	Venus II	25	44.7	46.9	48.1	58.3	59.3	0.3	1.8	2.8	12.8	13.9	15.8	47 0.43	— 0.07	14.22	14 47 14.58	. .
	α Coronæ Borealis	26	28.5	30.5	31.8	42.6	43.7	45.1	46.4	47.6	58.3	59.6	1.9	28 45.09	0.08	14.21	15 28 59.22	+ 11.81
27	Sun I	27	45.2	47.4	48.7	59.3	0.3	1.6	2.9	4.0	14.1	15.7	17.6	13 1.53	0.07	14.20	16 13 15.66	. .
	Sun II	28	5.4	7.4	8.6	19.1	20.4	21.6	22.9	24.0	34.1	35.5	37.6	15 21.51	0.07	14.20	16 15 35.64	. .
	ε Ursæ Minoris	29	7.0	15.0	24.0	32.5	40.5	. .	5.0	22.0	31.5	40.0	50.5	1 26.89	2 3.84	14.20	16 59 37.16	— 14.55
	α Ophiuchi	30	11.9	14.1	15.3	25.1	26.3	27.6	28.7	29.8	39.4	40.8	42.7	28 27.43	0.07	14.19	17 28 41.55	+ 12.49
	δ Ursæ Minoris	†31	46.0	22.5	40.5	23.0	42.0	1.5	22.5	41.0	22.5	40.5	15.0	15 1.55	1.18	14.18	18 15 14.55	— 57.94
	α Lyræ	32	49.0	51.7	53.3	5.6	7.0	8.4	10.0	11.4	23.5	25.2	27.6	32 8.43	0.09	14.18	18 32 22.52	+ 9.54
	γ Aquilæ	33	36.2	37.3	38.6	39.6	40.6	. .	8.8	11.1	12.3	13.4	14.9	39 55.28	16.97	14.17	19 39 52.48	12.29
	α Aquilæ	34	44.5	46.5	47.8	57.6	58.6	59.7	0.9	2.0	11.8	12.8	14.8	43 59.73	0.07	14.17	19 44 13.83	12.57
	β Aquilæ	35	13.7	15.9	17.0	26.8	27.9	29.0	30.2	31.2	40.6	41.9	43.9	48 28.92	0.07	14.17	19 48 43.02	12.64
	γ Piscium	36	. .	. .	. .	. .	. .	.	29.0	31.4	32.8	34.0	35.2	10 32.48	33.30	14.13	23 10 13.31	12.18
	κ Piscium	37	. .	. .	. .	47.7	48.9	50.2	51.4	52.4	1.7	3.1	5.0	19 55.05	5.05	14.13	23 20 4.13	12.02
	θ Piscium	38	41.4	43.7	44.7	54.3	55.3	56.6	57.8	58.9	8.4	9.6	11.6	20 56.55	0.07	14.13	23 21 10.61	11.81
	ω Piscium	39	57.4	59.3	0.4	10.1	11.1	12.3	13.5	14.5	24.0	25.3	27.3	52 12.29	0.07	14.15	23 52 26.37	11.78
	*+6° 7′	40	. .	. .	. .	41.8	43.2	45.2	0.2	2.5	3.7	4.9	6.5	52 56.00	— 25.92	14.15	23 52 44.23	11.74
	Moon I	41	36.2	38.2	39.4	49.1	50.4	51.6	. .	54.1	3.6	4.9	6.9	57 51.44	+ 0.06	14.15	23 58 5.65	. .
	Weisse 88	†42	18.0	19.4	20.6	21.9	24.4	39.4	41.4	42.5	. .	. .	. .	5 28.45	25.95	14.15	0 6 8.55	11.73
	B. A. C. 138	43	49.2	50.5	51.8	53.0	55.6	. .	55.8	58.0	59.3	0.5	1.9	27 25.56	+ 0.16	14.17	0 27 39.89	11.63
	*−5° 16′	44	11.5	13.6	14.9	24.5	25.7	26.8	28.0	29.1	38.5	39.8	41.7	27 26.74	— 0.07	14.17	0 27 40.84	11.63
	Neptune	45	1.4	3.3	4.5	14.2	15.2	16.5	17.7	18.7	28.1	29.3	31.2	31 16.37	0.07	14.17	0 31 30.47	. .
	*+1° 43′	46	. .	. .	. .	. .	. .	. .	48.7	51.0	52.3	53.6	55.0	31 52.12	33.29	14.17	0 32 33.00	11.62
	β Ceti	47	22.3	24.4	25.7	35.8	36.9	. .	39.4	40.5	50.4	51.8	54.0	36 38.12	0.06	14.17	0 36 52.23	11.52
	*+2° 28′	48	33.3	35.3	36.5	46.2	47.2	48.4	49.6	50.6	0.0	1.3	3.3	37 48.34	— 0.07	14.17	0 38 2.44	11.60
	Weisse 787	49	54.7	56.0	57.3	58.6	1.0	. .	. .	. .	. .	. .	. .	44 57.52	+ 33.76	+14.17	0 45 45.45	+ 11.59

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 26, 23.1	+ 13.76	— 0.012	— 0.07
18.5	14.18	— 0.011	
27, 2.5	+ 14.23	+ 0.032	

8. Faint; hazy.
12. Faint.
13. Very faint; hazy.
31. Faint.
42. Through clouds.

November 26–27, n. = 0.00 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.	
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.	
Nov. 27	Weisse 800	1	34.7	35.8	37.0	38.2	40.7	55.8	58.0	59.2	..	..	..	45 44.93	+ 26.01	+14.17	0 46 25.11	+ 11.58	
E.	Weisse 891	2	33.0	35.0	36.3	46.0	47.1	48.3	49.4	50.5	0.0	1.3	3.3	51 48.19	— 0.07	14.18	0 52 2.30	11.59	
	Weisse 925	3	..	..	..	..	..	..	1.6	3.9	5.1	6.1	7.5	54 4.84	33.58	14.18	0 53 45.44	11.59	
	* + 8° 6′	4	..	..	..	50.7	51.8	52.9	54.1	55.2	..	..	..	53 52.94	0.12	14.18	0 54 7.00	11.59	
	Weisse 997	5	10.4	12.4	13.7	23.4	24.5	25.6	26.9	27.9	37.4	38.8	40.8	57 25.62	0.07	14.18	0 57 39.73	11.60	
	Weisse 1054	6	58.1	0.3	1.5	..	12.3	13.5	14.8	..	25.3	26.5	28.5	59 13.42	0.07	14.18	0 59 27.53	11.60	
	Weisse 39	7	59.5	1.5	2.7	12.5	13.5	14.8	16.0	17.0	26.5	27.8	29.8	4 14.69	0.07	14.18	1 4 28.80	11.60	
	Polaris	†8	..	..	..	16.5	0.5	50.5	38.5	18.5	..	..	..	10 48.90	4.75	14.19	1 10 58.34	20.50	
	η Piscium	9	50.5	52.6	53.7	3.7	4.8	6.0	7.3	8.3	18.1	19.4	21.4	24 5.98	0.07	14.19	1 24 20.10	11.69	
	γ^1 Eridani	10	18.4	20.5	21.7	31.6	32.7	33.8	35.2	36.2	45.9	47.2	49.2	51 33.85	0.07	14.27	3 51 48.05	9.90	
	Psyche	11	13.5	15.5	16.7	26.7	27.8	29.0	30.3	31.3	41.2	42.5	44.4	58 28.99	0.07	14.27	3 58 43.19	..	
	Weisse (2) 65	12	27.6	29.7	30.9	41.0	42.1	43.2	44.5	45.5	55.5	56.9	58.9	4 43.25	0.07	14.27	4 4 57.45	12.28	
	* + 31° 20′	13	..	..	..	3.9	5.1	6.3	8.0	9.1	..	..	..	7 6.48	0.13	14.27	4 7 20.62	13.42	
	Weisse (2) 118	14	56.0	58.3	59.6	..	..	..	..	..	27.4	28.8	31.2	7 13.55	0.04	14.27	4 7 27.78	13.42	
	Weisse (2) 120	15	..	..	..	14.0	15.2	16.6	18.1	19.2	..	..	..	7 16.62	0.13	14.27	4 7 30.76	13.42	
	Weisse 183	16	48.1	50.3	51.5	1.8	2.8	4.0	5.2	6.4	16.1	17.5	19.5	10 3.93	0.08	14.28	4 10 18.13	12.34	
	58 Tauri	17	32.3	34.4	35.6	45.5	46.5	47.9	49.1	50.0	0.0	1.2	3.2	12 47.79	0.08	14.28	4 13 1.99	12.10	
	ε Tauri	18	19.0	21.2	22.4	32.6	33.7	35.0	36.3	37.4	47.4	48.7	50.7	20 34.95	0.08	14.29	4 20 49.16	12.48	
	11 Orionis	19	26.6	28.6	29.8	39.9	41.0	42.1	43.3	44.4	54.2	55.5	57.5	56 42.08	0.07	14.31	4 56 56.32	12.27	
	β Tauri	20	19.7	21.9	23.3	34.3	35.4	36.8	38.2	39.3	50.1	51.3	53.7	17 36.73	0.08	14.32	5 17 50.97	13.48	
Tr.	Polaris, S. P.	21	32.0	37.0	45.0	54.0	27.0	..	..	..	..	..	..	33 39.00	22 55.01	14.45	1 10 58.44	20.78	
	α Bootis	†22	..	45.0	..	1.0	..	17.0	..	32.9	..	49.0	..	9 16.98	0.15	14.84	14 9	12.27	
	ε Bootis	23	35.2	37.5	38.8	49.8	50.9	52.2	53.7	54.8	5.3	6.8	9.1	38 52.19	0.08	14.45	14 38	+ 12.06	
	Venus II	†24	39.5	41.7	43.1	53.1	54.1	55.5	56.7	57.8	7.5	9.1	11.1	51 55.38	0.07	14.47	14 52 9.78	— 0.38	
23	Sun I	25	2.2	4.2	5.6	16.0	17.2	18.2	19.8	20.7	31.3	32.5	34.6	17 18.37	0.08	14.48	16 17 32.77	..	
	Sun II	26	22.9	24.9	26.3	36.7	38.0	39.0	40.3	41.4	51.7	53.2	55.0	19 39.04	0.08	14.48	16 19 53.44	..	
	Mercury, (centre)	†27	..	..	..	20.9	22.3	24.6	41.2	43.9	45.3	46.7	48.2	43 36.64	28.75	14.48	17 43 22.37	..	
	α Lyræ	28	49.0	51.6	53.2	5.5	6.7	8.3	9.9	11.0	23.3	24.9	27.4	32 8.25	0.09	14.50	18 32	+ 9.55	
Y.	12 Ceti	†29	..	..	..	..	..	..	28.2	30.5	31.7	32.8	34.2	23 31.48	33.37	14.48	0 23 12.59	11.67	
	Neptune	30	58.3	0.3	1.6	11.2	12.2	13.4	14.6	15.7	25.0	26.3	28.3	31 13.36	0.07	14.48	0 31 27.77	..	
	* + 2° 28′	31	32.6	34.8	36.0	45.6	46.7	47.9	49.1	50.1	59.6	0.9	3.0	37 47.85	0.07	14.49	0 38 2.27	11.61	
	δ Piscium	32	15.0	17.0	18.3	28.0	29.0	30.2	31.5	32.5	42.0	43.3	45.3	41 30.19	0.07	14.49	0 41 44.61	11.61	
	Moon I	33	50.9	52.8	54.0	4.1	5.2	6.4	7.6	8.6	18.4	19.6	21.6	55 6.29	0.07	14.49	0 55 20.71	..	
	ε Piscium	34	..	..	..	..	..	..	..	16.0	18.4	19.5	20.8	22.1	56 19.36	33.52	14.49	0 56 0.33	11.56
	ζ Piscium, (1st *)	35	15.2	17.4	18.5	28.0	29.1	30.4	31.7	32.7	42.2	43.4	45.4	6 30.36	— 0.07	14.49	1 6 44.78	11.56	
	ζ Piscium, (2d *)	36	55.0	56.4	57.8	59.1	1.4	..	1.8	4.3	5.4	6.6	8.0	6 31.58	+ 0.16	14.49	1 6 46.23	11.56	
	Polaris	37	33.5	56.0	45.0	15.0	58.0	47.5	37.5	17.0	40.0	38.0	37.0	10 46.41	— 2.87	14.49	1 10 58.03	21.06	
	η Piscium	38	50.0	52.1	53.3	3.3	4.6	5.7	7.0	8.0	17.6	19.0	21.0	24 5.61	0.07	14.49	1 24 20.03	11.70	
	ν Piscium	39	58.9	1.0	2.3	12.1	13.0	14.2	15.4	16.5	25.9	27.1	29.0	34 14.13	0.07	14.49	1 34 28.55	11.45	
	o Piscium	†40	50.6	52.6	53.9	3.7	4.8	6.1	7.2	8.3	17.8	19.0	21.0	38 5.91	0.07	14.49	1 38 20.33	+ 11.57	
Tr. 29	ε Ursæ Minoris, S. P.	41	53.3	43.3	34.0	24.5	7.2	..	..	..	..	..	..	3 32.46	4 9.29	14.80	16 59	— 14.45	
	β Orionis	42	37.5	39.5	40.7	50.3	51.4	52.5	53.8	54.9	4.5	5.7	7.6	7 52.58	0.05	14.80	5 8 7.33	+ 10.16	
	Pallas	43	..	..	..	24.3	25.7	28.2	45.7	48.4	49.7	51.3	52.9	12 40.78	30.44	14.81	5 12 25.15	..	
	β Tauri	44	19.2	21.5	22.9	33.8	34.9	36.2	37.6	38.7	49.7	51.0	53.3	17 36.25	0.06	14.81	5 17 51.00	13.55	
	δ Orionis	45	..	..	..	..	..	..	26.3	28.5	29.5	30.9	32.3	25 29.50	33.25	14.82	5 25 11.07	10.91	
	Σ Cat. Gen. 599	46	53.2	55.4	56.6	6.9	8.0	9.2	10.6	11.6	21.8	23.2	25.4	28 9.26	0.05	14.82	5 28 24.03	12.88	
	ε Orionis	47	..	..	..	..	..	..	9.2	11.6	12.8	14.1	15.4	30 12.62	— 33.26	14.82	5 29 54.18	10.84	
	Uranus I	48	30.6	32.0	33.4	34.9	37.7	..	43.0	45.5	46.9	48.2	50.0	12 10.22	+ 0.19	14.85	6 12 25.26	..	
	Uranus II	49	54.6	..	58.0	8.5	9.8	10.9	12.2	13.3	23.7	..	27.3	12 10.92	— 0.06	14.85	6 12 25.71	..	
	μ Geminorum	50	21.4	23.6	24.9	35.3	36.5	37.7	39.2	40.2	50.4	51.8	54.0	14 37.73	0.06	14.86	6 14 52.53	+ 13.19	
	δ Ursæ Minoris, S. P.	51	12.0	51.0	29.0	9.0	27.0	..	..	..	..	..	..	24 25.60	— 9 28.05	+14.86	18 15	— 57.44	

8. Very tremulous.
22. Observation made with eye and ear.
24. Faint; hazy.
27. Blurred.
29. Cloudy.
40. Cloudy and hazy.

s.
November 27–28–29, n. = 0.00.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 28, 16.6	+ 14.47	+ 0.008	— 0.07
1.2	14.49	0.008	
29, 5.5	+ 14.82	+ 0.050	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 30 E.	α Boötis	1	59.3	1.4	2.9	12.8	14.0	15.3	16.6	17.7	27.8	29.0	31.3	9 15.28	+ 0.16	+16.32	14 9 31.76	+ 12.20
	Venus I	2	7.2	..	9.9	11.2	13.5	..	16.3	18.8	20.2	..	22.8	6 44.99	— 0.33	16.33	15 7 0.99	..
	Venus II	3	29.9	32.0	33.2	43.3	44.3	45.7	46.8	47.9	58.0	59.3	1.4	6 45.62	0.11	16.33	15 7 1.84	..
	β Libræ	†4	15.2	17.3	18.7	28.3	29.3	30.5	31.6	32.7	42.7	43.8	45.6	9 30.52	— 0.05	16.33	15 9 46.80	14.02
	α Coronæ Borealis	5	25.9	28.0	29.5	40.1	41.2	42.6	43.9	45.2	56.0	57.3	59.6	28 42.66	+ 0.22	16.34	15 28 59.22	+ 11.75
Dec. 1	Sun I	†6	45.7	47.5	48.7	59.3	0.3	1.6	2.8	4.0	14.3	15.8	17.8	30 1.62	— 0.15	16.35	16 30 17.82	..
	Sun II	7	6.2	8.4	9.9	20.3	21.3	22.4	23.5	24.6	35.1	36.4	38.6	32 22.43	0.15	16.35	16 32 38.63	..
	ϵ Ursæ Minoris	8	..	..	..	43.0	54.0	10.0	1.5	20.0	28.0	39.0	48.5	2 30.50	— 3 10.01	16.35	16 59 36.84	— 14.38
	δ Ursæ Minoris	†9	..	..	..	12.0	30.0	48.5	10.5	27.0	..	..	..	14 49.60	+ 7.70	16.36	18 15 13.66	— 57.09
	ζ Aquilæ	10	42.0	44.1	45.3	55.2	56.2	57.5	58.6	59.7	9.7	10.8	13.0	58 57.46	+ 0.11	16.37	18 59 13.94	+ 12.12
	Weisse 10	11	6.1	8.0	9.2	..	..	..	..	..	32.8	34.1	36.3	2 21.08	— 0.02	16.43	0 2 37.49	11.80
	Weisse 71	12	36.5	38.4	39.7	49.2	50.2	51.4	52.7	53.7	3.4	4.6	6.6	4 51.49	0.00	16.43	0 5 7.92	11.81
	Neptune	13	49.4	51.3	52.8	2.1	3.2	4.5	5.5	6.5	16.1	17.2	19.3	31 4.35	+ 0.02	16.43	0 31 20.80	..
	β Ceti	14	20.1	22.1	23.6	33.6	34.7	35.8	47.1	38.2	48.6	49.7	51.8	36 35.94	— 0.13	16.44	0 36 52.25	11.56
	* + 2° 28′	15	30.8	32.7	34.0	43.8	44.7	45.9	47.0	48.0	57.6	58.9	1.0	37 45.85	+ 0.03	16.44	0 38 2.32	11.63
	Weisse 804	16	..	..	..	21.7	22.8	24.0	25.1	26.1	36.0	37.2	39.1	46 29.00	— 4.93	16.44	0 46 40.51	11.62
	Weisse 827	17	52.1	54.0	55.2	4.9	5.9	7.0	8.2	9.3	19.1	20.2	22.3	48 7.11	+ 0.05	16.44	0 48 23.60	11.62
	Weisse 891	18	..	..	..	..	..	..	16.4	18.5	19.9	21.3	22.8	52 19.78	— 33.84	16.44	0 52 2.38	11.62
	Weisse 935	19	43.2	45.1	46.5	56.0	57.0	..	59.2	0.3	9.9	11.2	13.3	53 58.17	0.04	16.44	0 54 14.57	11.47
	Santini 58	20	45.1	47.3	48.5	58.0	59.0	0.1	1.6	2.4	12.1	13.4	15.5	56 0.29	— 0.03	16.44	0 55 43.82	11.63
	Polaris	†21	..	..	..	50.5	33.0	18.5	6.0	47.5	..	..	..	10 19.10	+ 18.64	16.44	1 10 54.18	22.54
	η Piscium	22	..	50.0	51.4	1.2	2.2	3.5	4.8	5.7	15.8	16.9	..	24 3.50	+ 0.13	16.44	1 24 20.07	11.71
	ζ Persei	†23	..	..	..	25.3	26.6	27.9	29.4	30.5	42.0	43.1	45.3	45 33.76	— 5.55	16.47	3 45 44.68	13.24
	γ^1 Eridani	24	16.3	18.2	19.5	29.3	30.3	31.5	32.6	33.7	43.6	44.9	47.0	51 31.54	— 0.09	16.47	3 51 47.92	9.88
	Moon I	25	55.6	..	59.0	9.1	10.4	11.6	12.7	13.8	24.4	..	27.8	0 11.60	+ 0.14	16.47	4 0 28.21	..
	γ Tauri	26	..	..	..	..	..	..	26.5	28.8	30.1	31.5	33.0	12 29.98	— 34.75	16.48	4 12 11.71	12.13
Tr.	α Bootis	27	59.2	1.3	2.7	12.7	13.9	15.0	16.3	17.5	27.7	29.0	31.1	9 15.13	+ 0.16	16.47	14 9	12.18
E. 4	Sun I	28	..	..	..	6.4	7.4	8.7	10.1	11.4	21.7	22.8	25.1	43 14.20	— 5.52	20.18	16 43 28.86	..
	Sun II	29	13.7	15.7	17.0	27.5	28.5	30.0	31.1	32.2	42.8	44.0	46.3	45 29.89	— 0.15	20.18	16 45 49.92	..
	α Lyræ	30	43.2	45.5	47.3	59.1	0.4	1.9	3.5	4.8	17.3	18.7	21.4	32 2.10	+ 0.33	20.18	18 32	9.60
	α Aquilæ	31	38.3	40.4	41.8	51.2	52.2	53.4	54.7	55.8	5.5	6.6	8.8	43 53.51	0.07	20.19	19 44	12.63
	β Aquilæ	32	7.6	9.7	10.9	20.4	21.4	22.5	23.7	24.9	34.6	35.7	37.8	48 22.65	0.05	+20.19	19 48	+ 12.69
Y. 7	ϵ Ursæ Minoris, S. P.	33	..	..	..	24.3	31.5	40.2	49.4	56.7	..	..	..	59 40.42	+ 1.89	— 4.70	16 59	— 14.14
	β Tauri	34	38.7	41.0	42.3	53.3	54.6	55.9	57.2	58.5	9.3	10.7	12.9	17 55.85	— 0.13	4.70	5 17 51.02	+ 13.42
	δ Orionis	35	0.9	3.1	4.2	14.0	14.9	16.0	17.2	18.3	27.8	28.9	30.9	25 16.02	0.03	4.70	5 25 11.29	+ 10.80
	Uranus	36	51.7	54.0	55.3	5.7	6.9	8.1	9.5	10.7	20.8	22.4	24.4	11 8.14	0.11	4.71	6 11 3.32	..
	δ Ursæ Minoris, S. P.	37	33.0	10.0	48.0	27.0	46.5	..	48.0	8.5	48.5	28.0	5.0	15 18.25	0.30	4.71	18 15	— 55.62
	γ Geminorum	38	48.8	50.9	52.1	2.0	3.2	4.5	5.7	6.8	16.7	18.0	20.1	30 4.44	0.09	4.71	6 29 59.64	+ 12.45
	51 Cephei	39	..	..	..	31.0	52.5	17.5	42.0	4.5	..	..	..	37 17.50	5.30	4.71	6 37 7.49	96.16
	10 Leonis	40	58.2	0.3	1.4	11.2	12.4	13.6	14.7	15.8	25.2	26.6	28.6	30 13.45	0.05	4.73	9 30 8.67	12.10
	o Leonis	41	49.9	52.0	53.0	3.0	4.0	5.3	6.4	7.4	17.1	18.2	20.3	34 5.15	0.06	4.73	9 34 0.36	12.31
	ϵ Leonis	42	..	..	..	32.6	34.0	36.2	52.5	55.0	56.3	57.7	59.2	38 47.94	28.34	4.73	9 38 14.87	13.21
	π Leonis	43	57.8	0.0	1.1	10.8	11.9	13.2	14.5	15.4	24.9	26.4	28.3	53 13.12	0.05	4.73	9 53 8.34	12.25
	Moon II	44	22.0	24.1	25.3	35.1	36.3	37.4	38.6	39.8	49.6	50.8	52.8	57 37.44	0.06	4.73	9 57 32.65	..
	45 Leonis	45	23.8	26.1	27.2	37.2	38.2	39.3	40.4	41.5	51.4	52.5	54.6	20 39.29	0.06	4.73	10 20 34.50	12.41
	ρ Leonis	46	35.0	37.0	38.2	47.9	48.8	50.3	51.6	52.5	2.2	3.3	5.4	25 50.20	— 0.06	4.73	10 25 45.41	12.41
	Polaris, S. P.	47	..	..	..	11.0	29.0	41.0	50.0	..	41.0	50.0	30.0	7 1.71	+ 3 48.37	4.75	1 10	26.78
	α Virginis	48	57.2	59.3	0.6	10.3	11.4	12.7	13.8	14.8	24.4	25.6	27.8	18 12.53	0.00	4.75	13 18 7.78	13.12
E.	α Coronæ Borealis	49	47.6	49.9	51.2	1.8	3.3	4.4	5.7	6.9	17.6	19.1	21.3	29 4.44	— 0.07	4.99	15 28 59.38	+ 11.63
	Venus I	†50	..	..	..	..	..	..	1.6	..	5.2	6.3	8.0	43 5.28	35.37	5.00	15 42 24.91	..
	Venus II	†51	15.0	17.0	18.3	28.5	29.7	30.9	32.1	33.3	43.4	44.6	46.6	42 30.85	— 0.01	— 5.00	15 42 25.84	..

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Dec. 1, 21.3	+ 16.40	+ 0.011	+ 0.01
4, 19.3	+ 20.19	+ 0.005	
7, 8.6	— 4.72	— 0.006	— 0.03

4. Faint.
6. Tremulous.
9. Faint and unsteady.
21. Tremulous; hazy.
23. Flaming.
50–51. Unsteady.

November 30–December 1–4, n. $= +0^{s}.40$.

November 30, 20h. Image east 0.34. Clamp west.
Image east 0.54. Clamp east.
After this changed level cor.
December 5, 18h. Image west 0.24. Clamp east.
Image west 0.45. Clamp west.
Shortened pendulum of clock two divisions.
Changed the azimuth cor.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Dec. 8 E.	Sun I	†1	46.9	48.7	49.9	0.9	2.0	3.0	4.0	5.0	15.5	16.8	19.0	1 2.88	0.00	— 5.08	17 0 57.80	. .
	Sun II	†2	8.7	10.4	12.0	22.4	23.6	24.7	26.1	27.4	38.4	39.5	41.9	3 25.01	0.00	5.08	17 3 19.93	. .
	ζ Aquilæ	3	. .	. .	. .	31.1	32.5	34.5	50.2	52.4	53.6	54.9	56.2	59 45.68	— 26.49	5.19	18 59 14.00	+ 12.14
	α Aquilæ	4	53.7	55.7	56.9	16.7	17.8	19.0	20.2	21.3	30.6	32.0	34.0	44 18.90	0.04	5.24	19 44 13.62	12.65
	β Aquilæ	5	. .	. .	. .	. .	. .	. .	18.2	20.6	21.8	23.0	24.3	49 21.58	33.41	5.24	19 48 42.93	12.71
	Neptune	6	. .	. .	. .	11.9	13.0	14.1	15.4	16.4	25.8	27.1	29.2	31 19.11	5.02	5.52	0 31 8.57	. .
	β Ceti	7	41.9	44.0	45.3	55.5	56.7	57.9	59.0	0.1	10.2	11.4	13.4	36 57.76	0.01	5.53	0 36 52.22	11.65
	* + 2° 28′	8	52.6	54.8	55.9	5.6	6.7	7.8	8.9	10.0	19.6	21.8	22.7	38 7.85	0.03	5.53	0 38 2.27	11.70
	Weisse 742	9	23.9	25.9	27.2	36.6	37.7	. .	40.3	41.3	50.9	52.1	54.1	43 39.00	0.04	5.53	0 43 33.43	11.70
	Weisse 804	10	31.0	33.0	34.1	43.9	45.0	46.1	47.3	48.5	58.0	59.0	1.0	46 46.08	0.04	5.54	0 46 40.50	11.64
	Weisse 829	11	14.0	15.9	17.1	26.7	27.8	29.0	30.2	31.3	40.7	42.1	44.0	48 28.98	0.04	5.54	0 48 23.40	11.68
	Weisse 891	12	52.5	54.8	55.9	5.4	6.4	7.7	8.9	9.9	19.3	20.6	22.5	52 7.63	0.04	5.55	0 52 2.04	11.67
	Santini 58	13	34.3	36.1	37.3	47.4	48.4	. .	50.7	51.8	1.3	2.5	4.6	55 49.44	— 0.03	5.55	0 55 43.86	11.67
	Weisse 1034	†14	17.8	19.9	21.3	31.0	32.0	33.1	34.2	35.3	. .	. .	. .	59 28.08	+ 4.98	5.55	0 59 27.51	11.69
	Polaris	15	. .	. .	. .	30.5	11.0	1.5	50.5	30.5	. .	. .	. .	11 0.80	— 6.38	5.56	1 10	27.17
	θ Ceti	16	. .	12.5	14.0	23.7	24.7	25.9	27.2	28.1	37.8	39.0	. .	17 25.88	0.03	5.57	1 17 20.28	11.28
	η Piscium	17	9.8	11.8	13.3	23.3	24.4	. .	26.7	27.8	37.6	38.7	40.7	24 25.41	0.04	— 5.57	1 24 19.80	11.77
Y. 13	α Coronæ Borealis	†18	17.7	20.0	21.4	32.0	33.3	34.6	35.8	37.0	47.6	49.2	51.4	28 34.55	— 0.08	+15.05	15 28	11.52
	Venus I	†19	38.2	39.4	40.8	42.1	44.9	. .	49.4	51.6	52.7	54.1	55.7	13 16.89	+ 0.35	15.01	16 13 32.25	. .
	Venus II	†20	2.1	4.2	5.7	16.0	17.1	18.3	19.6	20.7	30.5	32.0	34.0	13 18.20	+ 0.11	15.01	16 13 33.32	. .
14	α Aquilæ	21	33.7	35.8	37.0	46.8	47.8	48.9	50.2	51.3	0.8	2.0	4.1	44 48.95	0.00	+14.77	19 44	12.67
	Polaris	22	43.0	4.0	52.0	29.0	11.5	1.0	50.0	30.0	57.0	50.0	9.0	10 57.86	— 7.77	— 5.47	1 10	31.35
	β Arietis	23	. .	7.6	8.7	.	20.0	21.2	. .	23.6	33.7	35.0	37.1	47 23.36	2.17	5.46	1 47 15.73	12.02
	η Tauri	24	22.0	24.3	25.5	36.2	37.3	38.5	39.8	41.0	51.2	52.7	54.9	39 38.49	0.06	5.41	3 39 33.02	12.56
	Psyche	25	12.5	14.5	15.9	25.8	26.9	28.2	29.4	30.5	40.2	41.4	43.6	45 28.08	0.03	5.41	3 45 22.64	. .
	11 Orionis	26	46.1	48.3	49.7	59.5	0.7	1.9	3.1	4.3	14.0	15.2	17.3	57 1.83	0.03	5.38	4 56 56.42	12.07
	ν Orionis	27	46.7	48.8	50.1	0.0	1.1	2.3	3.6	4.6	14.4	15.9	17.8	0 2.30	0.03	5.36	5 59 56.91	12.13
	Uranus	28	36.2	38.4	39.7	50.1	51.4	52.6	53.9	55.0	5.3	6.6	9.1	9 52.57	— 0.06	5.35	6 9 47.16	. .
	Weisse (2) 328	29	31.3	32.9	34.4	35.8	38.8	. .	49.3	52.4	53.7	55.1	56.7	13 14.04	+ 0.16	5.35	6 13 8.85	+ 13.85
	Eunomia	30	40.5	42.2	43.8	45.1	48.0	. .	58.9	1.5	2.8	4.3	5.7	13 23.28	+ 0.16	5.35	6 13 18.09	. .
	δ Ursæ Minoris, S. P.	31	29.5	10.0	46.0	24.5	. .	28.5	53.5	34.0	. .	. .	. .	22 23.71	— 7 6.29	5.35	18 15	— 54.64
	γ Geminorum	32	49.6	51.6	52.9	2.9	4.0	5.2	6.4	7.5	17.5	18.8	20.8	30 5.20	0.03	5.35	6 29 59.82	+ 12.32
	51 Cephei	33	. .	. .	. .	33.5	55.0	19.0	45.5	6.5	. .	. .	. .	37 19.90	— 4.89	5.34	6 37 9.67	94.59
E. 15	β Ceti	†34	3.0	5.1	6.5	16.5	17.6	18.8	20.0	21.1	31.2	32.5	34.7	37 18.82	+ 0.04	26.85	0 36	11.73
	* + 2° 28′	35	13.9	15.9	17.1	26.8	28.0	29.0	30.1	31.2	40.6	41.8	44.0	38 28.95	0.03	26.85	0 38 2.13	11.78
	* + 2° 34′	†36	2.0	4.0	5.1	14.9	16.0	17.0	18.2	19.3	28.7	30.1	32.0	43 17.03	+ 0.03	26.85	0 42 50.21	11.75
	Polaris	37	. .	. .	. .	. .	. .	. .	13.5	50.0	40.5	29.5	24.0	33 31.50	—22 39.60	5.83	1 10 46.07	32.00
	o Piscium	38	10.8	12.9	14.1	23.7	24.9	26.0	27.3	28.2	37.8	39.1	41.1	38 25.99	+ 0.03	5.83	1 38 20.19	11.69
	Weisse 56	39	47.1	48.9	50.4	59.8	0.9	2.1	3.3	4.5	13.6	14.9	17.4	5 2.08	0.03	5.83	3 4 56.28	11.34
	ζ Arietis	40	3.4	5.5	6.8	17.1	18.2	19.5	20.8	21.8	32.0	33.4	35.5	7 19.45	+ 0.03	5.83	3 7 13.65	12.23
	Weisse 145	41	. .	. .	. .	31.4	32.5	33.8	35.0	36.1	44.7	45.9	48.3	9 38.46	— 4.98	5.83	3 9 27.65	11.35
	Weisse 316	42	36.8	38.8	40.2	49.7	50.9	52.0	53.2	54.4	4.1	5.2	6.7	18 52.00	+ 0.03	5.83	3 18 46.20	11.44
	15 Pleiadum	43	46.4	47.9	49.4	50.7	53.2	. .	58.8	1.4	2.9	4.2	5.5	39 26.04	0.28	5.83	3 39 20.49	12.56
	24 Pleiadum	44	14.4	16.5	18.0	28.2	29.5	30.8	32.1	33.3	43.5	44.8	47.0	39 30.74	0.03	5.83	3 39 24.94	12.55
	η Tauri	45	22.3	24.5	25.8	36.5	37.7	38.9	40.3	41.4	51.6	53.0	55.2	39 38.84	0.03	5.83	3 39 33.04	12.56
	Psyche	46	35.1	37.3	38.8	48.6	49.7	51.0	52.3	53.3	2.7	4.5	6.6	44 50.90	+ 0.03	5.83	3 44 45.10	. .
	B. A. C. 1229	47	18.1	19.3	20.5	21.8	23.0	. .	51.1	53.5	54.7	55.9	57.3	50 37.52	— 17.10	— 5.83	3 50 14.59	+ 9.84

1–2. Blurred.
14. Faint; uncertain.
18. Observed with Kessel clock.
19–20. Unsteady.
34–36. Observed with Kessel clock.

	s.
December 7–8 n. =	— 0.18.
8	0.08.
13–14	0.22.
15. By P. and P. S. P.	— 0.01.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Dec. 8.21.3	— 5.33	— 0.059	— 0.03
14, 17.6	+ 14.91	— 0.068	+ 0.03
4.6	— 5.39	+ 0.023	
15, 5.3	— 5.83	— 0.001	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n 1870.0
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Dec. 15	γ^1 Eridani	1	38.6	40.6	41.7	51.8	52.8	54.0	55.3	56.3	6.0	7.2	9.4	51 53.96	+ 0.03	— 5.83	3 51 48.16	+ 9.[illegible]
E.	Weisse (2) 65	2	47.7	49.8	51.3	1.0	2.4	3.6	4.8	5.8	15.7	16.9	19.2	5 3.47	0.03	5.83	4 4 57.67	12.1[illegible]
	* + 31° 21′	3	8.8	10.6	12.5	24.2	25.2	26.4	27.8	29.1	40.2	41.5	43.8	7 26.37	0.03	5.83	4 7 20.57	13.3[illegible]
	Weisse (2) 118	4	51.0	52.4	54.2	55.7	58.3	. .	. .	. .	. .		. .	6 54.32	39.41	5.83	4 7 27.90	13.3[illegible]
	Weisse (2) 120	5	19.0	21.3	23.1	34.1	35.2	36.5	38.1	39.2	50.1	51.9	54.1	7 36.60	0.03	5.83	4 7 30.80	13.3[illegible]
	ω Tauri	6	16.0	18.3	19.5	30.0	31.0	32.3	33.6	34.7	44.8	46.1	48.2	9 32.23	0.03	5.83	4 9 26.43	12.3[illegible]
	Weisse (2) 183	7	8.3	10.6	11.8	21.8	23.0	24.3	25.4	26.5	36.5	37.7	39.7	10 24.14	0.03	5.83	4 10 18.34	12.2[illegible]
	ϵ Tauri	8	39.4	41.4	42.7	52.8	54.0	55.1	56.4	57.7	7.6	8.9	11.0	20 55.18	0.03	5.83	4 20 49.38	+ 12.34
	Pallas	9	18.4	21.0	22.3	33.8	35.0	36.4	37.9	39.2	50.2	51.7	54.3	58 36.38	+ 0.04	5.83	4 58 30.59	. .
	ϵ Ursæ Minoris, S. P.	10	12.5	2.5	53.0	45.0	26.0	33.5	19.0	10.5	. .	. .	. .	2 55.25	— 3 13.13	5.83	16 59 36.29	— 14.0[illegible]
	β Tauri	11	39.9	42.2	43.6	54.2	55.5	56.9	58.2	59.4	10.2	11.8	14.0	17 56.90	+ 0.03	5.83	5 17 51.10	+ 13.32
	Uranus	12	25.4	27.7	28.9	39.3	40.5	41.8	43.0	44.2	54.6	56.0	58.1	9 41.77	0.03	5.83	6 9 35.97	. .
	Eunomia	13	56.4	58.6	0.0	11.2	12.5	14.0	15.6	16.7	27.6	28.9	31.6	12 13.92	0.03	5.83	6 12 8.12	. .
	δ Ursæ Minoris, S. P.	14	. .	. .	. .	59.3	40.0	19.8	59.5	41.5	. .	. .	. .	15 20.02	+ 0.44	5.83	18 15 14.63	— 54.49
	* — 6° 57′	15	. .	. .	. .	39.1	40.2	41.4	42.5	43.9	53.2	54.3	55.9	21 46.31	— 4.99	5.83	6 21 35.49	+ 10.12
	γ Geminorum	16	49.8	52.1	53.3	3.4	4.4	5.5	6.8	7.9	17.6	19.2	21.1	30 5.55	+ 0.03	5.83	6 29 59.75	12.3[illegible]
	51 Cephei	17	. .	. .	. .	30.0	51.0	15.5	40.5	0.0	. .	. .	. .	37 15.40	+ 0.54	5.83	6 37 9.03	94.24
	Polaris, S. P.	†18	44.5	53.0	1.0	5.0	32.0	. .	. .	. .	. .	. .	. .	33 51.10	—22 59.90	5.84	1 10 45.36	32.3[illegible]
	η Bootis	19	7.5	9.7	10.9	21.0	22.1	23.3	24.6	25.8	35.6	37.0	39.1	48 23.33	+ 0.03	5.84	13 48	12.22
Tr.	Venus I	20	52.2	55.5	56.8	7.2	8.4	9.6	10.9	12.0	22.2	23.6	25.6	24 9.45	0.04	5.87	16 24 3.62	. .
	Venus II	21	31.1	32.5	33.8	35.2	37.8	. .	42.3	44.7	46.2	47.4	49.1	24 10.01	+ 0.28	5.87	16 24 4.42	. .
16	Sun I	22	20.8	21.8	23.1	24.5	25.8	. .	55.5	58.3	59.5	0.9	2.4	36 41.26	— 18.11	5.87	17 36 17.28	. .
	Sun II	23	29.5	31.8	33.2	43.4	44.4	45.7	46.9	48.2	58.5	0.9	1.9	38 45.78	+ 0.04	5.87	17 38 39.94	. .
Y.	Venus I	24	4.2	5.7	7.0	8.3	10.8	. .	16.0	18.5	19.9	21.1	22.8	50 43.43	— 0.37	3.24	16 50 39.82	. .
	Venus II	25	27.8	30.0	31.3	41.4	42.5	43.7	45.2	46.5	56.7	58.0	0.2	50 43.94	0.13	3.24	16 50 40.57	. .
21	Sun I	26	16.7	18.9	20.2	30.4	31.4	33.0	34.3	35.5	45.8	46.9	49.3	58 32.95	0.13	3.24	17 58 29.58	. .
	Sun II	27	39.5	41.4	42.8	53.2	54.4	55.6	56.9	58.0	8.4	9.8	12.0	0 55.64	0.13	3.24	18 0 52.27	. .
	α Lyræ	28	7.1	9.3	11.0	23.2	24.4	25.9	27.4	28.8	41.0	42.8	45.2	32 26.01	0.09	3.24	18 32 22.68	9.62
	α Aquilæ	29	1.9	3.9	5.1	14.8	15.8	17.1	18.2	19.3	29.0	30.2	32.3	44 17.06	0.09	3.25	19 44 13.72	12.6[illegible]
	Moon I	30	26.2	28.2	29.5	39.7	40.8	42.2	43.3	44.3	54.5	55.8	57.9	57 42.04	0.11	3.25	20 57 38.68	. .
	β Cephei	31	13.6	19.4	22.8	50.8	53.9	57.1	0.4	4.0	31.7	35.4	41.5	26 57.33	0.15	3.25	21 26 53.93	4.2[illegible]
	ϵ Pegasi	32	24.0	25.9	27.4	35.8	38.0	39.1	40.3	41.4	51.2	52.4	54.5	37 39.09	0.09	3.25	21 37 35.75	12.2[illegible]
	η Tauri	33	19.9	22.2	23.7	33.8	34.9	36.3	37.7	38.8	. .	. .	. .	39 30.91	+ 5.35	3.27	3 39 32.99	12.5[illegible]
	ι Aurigæ	34	3.7	6.0	7.4	18.8	20.0	21.4	22.9	24.2	35.6	36.9	39.4	48 21.48	0.09	3.28	4 48 18.11	+ 13.6[illegible]
	Pallas	35	16.5	18.7	20.4	31.7	32.8	34.1	35.7	37.0	48.5	49.9	52.3	53 34.33	0.15	3.28	4 53 30.90	. .
	ϵ Ursæ Minoris, S. P.	36	48.5	3.6	12.3	23.9	31.7	41.2	49.8	57.0	6.8	16.3	31.0	59 40.19	+ 0.38	3.28	16 59 37.29	— 14.1[illegible]
	β Orionis	37	55.8	57.7	59.0	8.6	9.7	10.8	12.0	13.2	23.0	24.2	26.1	8 10.92	0.11	3.28	5 8 7.53	+ 9.9[illegible]
	ν Orionis	38	44.8	47.0	48.1	57.9	58.9	0.3	1.5	2.6	12.5	13.8	15.8	0 0.29	0.09	3.28	5 59 56.92	12.0[illegible]
	Weisse (2) 79	39	11.8	13.4	14.9	16.3	18.9	. .	29.5	32.2	33.6	35.2	36.9	4 54.27	0.36	3.28	6 4 50.63	+ 13.6[illegible]
	Eunomia	40	24.6	26.2	27.8	29.0	31.9	. .	. .	. .	. .	. .	. .	4 27.90	+ 38.78	3.28	6 5 3.40	. .
	Uranus	41	15.7	17.8	19.2	29.4	30.5	32.0	33.3	34.5	45.0	46.1	48.3	8 31.98	0.09	3.28	6 8 28.61	. .
	δ Ursæ Minoris, S. P.	42	24.0	51.3	30.0	50.0	32.5	13.0	53.0	. .	52.5	32.5	58.0	15 15.68	2.83	3.28	18 15 9.57	— 53.6[illegible]
	γ Geminorum	43	47.7	49.7	51.0	0.8	1.8	3.2	4.3	5.4	15.6	16.9	19.0	30 3.22	0.09	3.28	6 29 59.85	+ 12.2[illegible]
	51 Cephei	44	. .	. .	. .	29.5	50.0	14.0	39.0	1.0	. .	. .	. .	37 14.70	— 0.08	3.28	6 37 11.34	92.9[illegible]
	Polaris, S. P.	45	14.5	35.0	45.0	55.0	11.5	. .	3.0	24.0	32.0	38.5	46.0	59 12.45	+11 30.83	3.30	1 10 39.98	37.0[illegible]
	α Virginis	46	35.1	36.5	37.7	38.9	41.2	. .	42.4	44.8	46.1	47.3	48.8	18 11.88	— 0.34	3.30	13 18	12.6[illegible]
E.	α Coronæ Borealis	47	46.5	48.8	50.3	0.7	1.8	3.4	4.6	5.9	16.7	18.0	20.2	29 3.35	0.09	3.57	15 28 59.69	11.3[illegible]
	α Scorpii	48	11.8	13.1	14.5	15.8	17.0	. .	48.0	50.8	52.2	53.6	55.0	21 33.18	18.85	3.57	16 21 10.76	15.6[illegible]
	Venus I	†49	26.7	28.0	29.3	30.5	33.2	. .	38.4	40.7	42.2	43.4	44.8	56 5.72	0.38	3.57	16 56 1.77	. .
	Venus II	†50	50.3	52.6	53.9	3.9	5.1	6.4	7.6	8.7	19.6	20.7	23.0	56 6.53	0.13	3.57	16 56 2.83	. .
	α Herculis	51	19.3	21.4	22.7	32.6	33.7	34.9	36.2	37.3	47.0	48.1	50.4	8 34.87	— 0.09	— 3.57	17 8 31.21	+ 12.1[illegible]

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Dec. 21, 3.0	— 3.27	— 0.003	— 0.10

18. Very unsteady.
49–50. Unsteady.

December 21–22. By P. S. P. and P., n. = $+0.^{s}05$.

December 20, 19h. Image west $0.^{r}12$. Clamp west.
Image west $0.^{r}21$. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1870. 0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Dec. 22	Sun I	1	43.3	45.7	47.2	57.7	58.7	0.0	1.1	2.6	13.0	14.3	16.5	3 0.01	— 0.13	— 3.56	18 2 56.32	. .
E.	Sun II	2	6.5	8.7	10.2	20.6	22.1	23.3	24.9	26.0	35.8	37.1	39.0	5 23.11	0.13	3.56	18 5 19.42	. .
	α Lyræ	3	6.9	9.4	11.2	23.2	24.8	26.1	27.4	29.0	41.4	43.0	45.5	32 26.17	0.09	3.56	18 32 22.52	+ 9.62
	α Aquilæ	4	2.2	4.3	5.6	15.0	16.2	17.5	18.6	19.7	29.3	30.6	32.5	44 17.41	0.09	3.56	19 44 13.76	12.67
	ε Pegasi	5	24.3	26.2	27.6	37.1	38.1	39.3	40.5	41.6	51.4	52.6	54.7	37 39.40	0.09	3.56	21 37 35.75	12.30
	Moon I	6	. .	. .	. .	16.9	18.0	20.0	36.0	38.4	39.7	41.0	42.3	52 31.54	27.11	3.56	21 52 0.87	. .
	α Aquarii	7	42.1	44.2	45.6	54.9	56.0	57.1	58.3	59.4	9.1	10.2	12.3	58 57.20	0.10	3.56	21 58 53.54	12.81
	Polaris	8	. .	. .	. .	10.5	52.0	41.5	30.5	11.5	. .	. .	. .	10 41.20	0.17	3.56	1 10 37.47	37.53
	η Piscium	9	8.1	10.1	11.5	21.1	22.2	23.3	24.6	25.8	35.8	36.9	39.1	24 23.50	0.09	3.56	1 24 19.85	11.90
	γ Ceti	10	11.4	13.3	14.5	24.1	25.1	26.4	27.5	28.6	38.9	39.3	41.5	36 26.35	0.10	3.56	2 36 22.69	11.29
	Weisse 56	11	45.1	47.1	48.4	57.8	58.9	0.1	1.2	2.3	12.0	13.2	15.1	5 0.11	0.10	3.56	3 4 56.45	11.36
	ζ Arietis	12	1.4	3.5	4.9	15.0	16.1	17.3	18.5	19.5	30.0	31.3	33.5	7 17.36	0.09	3.56	3 7 13.71	12.25
	Weisse 145	13	16.3	18.3	19.7	29.1	30.2	31.3	32.6	33.6	43.3	44.4	46.4	9 31.38	0.10	3.56	3 9 27.72	11.38
	Pallas	14	29.9	32.2	33.6	44.9	46.1	47.5	49.0	50.2	1.8	3.1	5.5	52 47.62	— 0.15	3.56	4 52 43.91	. .
	* + 5° 50′	15	23.2	25.3	26.5	36.3	37.3	38.4	39.4	40.4	. .	. .	. .	54 33.35	+ 4.91	3.56	4 54 34.70	11.23
	(* 129) W.	16	47.6	49.5	50.8	0.2	1.3	2.5	3.7	4.8	14.4	15.7	17.7	55 2.56	— 0.10	3.56	4 54 58.90	11.24
	11 Orionis	17	44.7	46.7	48 0	57.8	58.8	0.1	1.4	2.5	. .	. .	. .	56 55.00	+ 5.08	3.55	4 56 56.53	+ 12.02
	ε Ursæ Minoris, S. P.	18	6.2	56.4	47.7	38.6	21.0	. .	. .	. .	. .	. .	. .	3 45.98	— 4 5.83	3.55	16 59 36.60	— 14.17
	Eunomia	19	9.4	11.8	13.2	24.2	25.4	26.7	28.2	29.5	40.7	42.0	44.3	3 26.85	0.09	3.55	6 3 23.21	. .
	Uranus I	20	41.8	43.4	44.7	45.9	48.3	. .	53.9	56.5	57.9	59.2	0.8	8 21.24	0.34	3.55	6 8 17.35	. .
	Uranus II	21	4.9	7.0	8.4	18.8	20.1	21.3	22.6	23.8	34.3	35.7	37.7	8 21.33	— 0.09	3.55	6 8 17.69	. .
	δ Ursæ Minoris, S. P.	22	. .	. .	. .	52.0	35.0	15.0	56.5	36.5	. .	. .	. .	15 15.00	+ 0.07	3.55	18 15 11.52	— 53.61
	γ Geminorum	23	47.9	50.0	51.3	. .	2.2	3.5	4.8	5.8	15.8	17.1	19.2	30 3.76	— 0.32	3.55	6 29 59.89	+ 12.20
	51 Cephei	24	. .	. .	. .	28.5	48.0	16.5	40.0	1.5	. .	. .	. .	37 14.90	0.09	3.55	6 37 11.26	92.77
Tr.	α Ophiuchi	25	30.4	32.4	33.6	43.4	44.4	45.8	47.0	47.9	58.0	59.1	1.3	28 45.75	0.04	4.00	17 28 41.71	12.29
23	Sun I	26	10.9	13.1	14.5	24.8	26.0	27.1	28.5	29.8	40.1	41.5	43.6	7 27.26	0.16	4.00	18 7 23.10	. .
	Sun II	27	33.4	35.4	37.1	47.2	48.4	49.7	51.2	52.3	2.7	4.0	6.2	9 49.78	— 0.16	4.00	18 9 45.62	. .
	α Lyræ	28	7.7	10.0	11.8	23.7	25.2	26.6	28.2	29.7	42.1	43.4	46.0	32 26.76	+ 0.03	4.00	18 32 22.79	9.62
	α Aquilæ	29	2.5	4.6	5.9	15.5	16.5	17.7	18.8	19.7	29.7	30.8	32.9	44 17.71	— 0.05	3.99	19 44 13.67	12.68
	ε Pegasi	30	. .	26.6	27.9	37.5	38.5	39.7	40.8	41.9	51.7	52.9	. .	37 39.72	0.04	3.99	21 37 35.69	12.31
	Moon I	31	51.4	53.3	54.7	4.4	5.4	6.6	7.9	9.0	18.9	20.0	22.1	46 6.70	0.09	3.99	22 46 2.62	. .
	ζ Pegasi	32	35.4	37.4	38.6	48.2	49.2	50.4	51.7	52.8	2.5	3.7	5.8	34 50.52	0.05	3.99	22 34 46.48	12.14
	ε Tauri	33	37.6	39.7	41.0	51.1	52.0	53.2	54.5	55.7	5.9	7.2	9.3	20 53.38	0.03	3.99	4 20 49.36	12.32
	* — 10° 45′	34	50.4	52.3	53.7	3.2	4.3	5.4	6.7	7.8	17.5	18.8	20.9	23 5.55	0.11	3.99	4 23 1.45	9.93
	α Tauri	35	4.2	6.2	7.6	17.4	18.5	19.8	21.0	22.1	32.1	33.2	35.5	28 19.78	0.03	3.99	4 28 15.76	12.10
	Weisse 926	36	37.5	39.5	40.8	50.5	51.5	52.7	53.9	54.9	4.6	5.7	8.0	43 52.69	0.05	3.99	4 43 48.65	11.64
	Weisse 1047	37	22.8	25.1	26.5	37.2	38.3	39.6	41.0	42.2	53.1	54.4	56.8	47 39.73	0.00	3.99	4 47 35.74	13.09
	Pallas	38	44.4	46.3	48.3	59.5	0.6	2.0	3.4	4.8	16.2	17.5	20.0	52 2.12	0.21	3.99	4 51 57.92	. .
	11 Orionis	39	45.0	47.1	48.3	58.2	59.3	0.5	1.8	2.9	12.8	14.1	16.3	57 0.57	0.04	3.99	4 56 56.54	+ 12.02
	ε Ursæ Minoris, S. P.	40	7.9	57.8	49.1	39.8	22.5	32.0	17.6	6.8	. .	. .	. .	2 51.69	— 3 11.30	3.99	16 59	— 14.19
	* + 31° 13′	41	54.4	56.0	57.3	58.6	1.4	18.8	21.1	22.6	. .	. .	. .	2 6.27	+ 30.06	3.98	6 2 32.35	+ 13.62
	Eunomia	42	5.0	6.5	8.1	9.4	12.2	29.7	31.0	33.5	. .	. .	. .	2 17.04	30.06	3.98	6 2 43.12	. .
	Weisse (2) 13	43	. .	. .	. .	5.5	6.7	8.0	9.4	10.6	. .	. .	. .	3 8.04	+ 0.06	3.98	6 3 4.12	+ 13.62
	Uranus I	44	30.7	32.3	33.6	34.9	37.5	. .	42.8	45.5	46.9	48.3	49.8	8 10.23	— 0.36	3.98	6 8 5.99	. .
	Uranus II	45	54.0	56.2	57.7	8.0	9.0	10.4	11.7	12.9	23.2	24.4	26.8	8 10.39	0.01	3.98	6 8 6.40	. .
	δ Ursæ Minoris, S. P.	46	. .	. .	. .	56.0	37.0	17.0	58.0	40.0	. .	. .	. .	15 17.60	2.30	3.98	18 15	— 53.56
	γ Geminorum	47	48.4	50.4	51.8	1.7	2.7	3.9	5.2	6.4	16.3	17.7	19.7	30 4.02	— 0.04	3.98	6 30 0.00	+ 12.18
	51 Cephei	48	. .	. .	. .	27.0	49.0	13.0	37.0	59.0	. .	. .	. .	37 13.00	+ 2.81	— 3.98	6 37 11.83	+ 92.65

December 23, n. = + 0.17.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
	h. s.	s.	s.
Dec. 22, 22.4	— 3.56	+ 0.001	— 0.08
23, 0.7	— 3.99	+ 0.001	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n 1870.0.
1865.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Dec. 27	ξ^1 Ceti	1	11.6	..	26.9	42.0	..	56.6	..	12.0	27.4	..	42.0	5 56.93	— 0.08	— 1.73	2 5 55.12	+ 11.70
Tr.	ξ^2 Ceti	2	19.7	..	35.0	50.0	..	5.2	..	20.0	35.6	..	50.7	21 5.17	0.08	1.71	2 21 3.38	11.67
	Moon I	3	40.4	..	56.3	12.0	..	27.5	..	43.5	59.4	..	15.0	30 27.73	0.06	1.71	2 30 25.96	..
	γ Ceti	4	39.6	..	54.5	9.5	..	24.3	..	39.4	54.3	..	9.2	36 24.40	— 0.11	1.71	2 36 22.58	11.34
	β Ursæ Minoris, S. P.	5	..	..	..	..	..	4.5	..	7.3	10.5	..	14.9	49 39.30	+ 1 24.39	1.70	14 51	4.37
	α Ceti	6	34.3	..	49.5	4.3	..	19.5	..	34.3	49.4	..	4.4	55 19.39	— 0.11	1.69	2 55 17.59	11.35
Y. 28	Polaris	7	27.5	47.0	39.5	.	48.0	38.5	27.0	12.0	45.0	35.5	57.0	10 49.70	13.65	1.60	1 10 34.45	42.37
	ξ^1 Ceti	8	..	..	26.7	41.4	..	56.8	..	11.9	27.0	..	..	5 56.76	0.16	1.59	2 5 55.01	11.71
	67 Ceti	9	..	..	50.4	5.4	..	20.4	..	35.8	51.0	..	..	10 20.60	0.15	1.59	2 10 18.86	11.13
	μ Ceti	10	59.2	..	14.8	29.8	..	44.8	..	0.1	15.7	..	30.3	37 44.96	0.14	1.59	2 37 43.23	11.71
	δ Arietis	11	13.8	..	29.7	45.6	..	1.3	..	17.4	33.3	..	49.0	4 1.44	0.15	1.59	3 3 59.70	12.27
	Moon I	12	28.0	..	44.0	59.8	..	15.7	..	32.0	48.1	..	4.0	31 15.94	0.14	1.59	3 31 14.21	..
	η Tauri	13	45.8	..	2.1	18.4	..	34.8	..	51.1	7.7	..	23.8	39 34.81	0.15	1.59	3 39 33.07	12.56
	A^1 Tauri	14	1.6	..	17.8	33.8	..	49.9	..	6.1	22.4	..	38.3	56 49.97	0.15	1.58	3 56 48.24	+ 12.49
	Pallas	15	34.2	..	52.1	9.8	..	..	..	45.1	3.0	..	20.4	48 27.43	— 0.15	1.58	4 48 25.70	..
	ϵ Ursæ Minoris, S. P.	16	28.5	14.0	4.0	54.5	47.0	38.5	29.5	22.0	10.0	1.0	46.2	59 37.75	+ 0.81	1.58	16 59 36.98	— 14.41
	β Orionis	17	23.8	..	39.0	54.0	..	9.0	..	24.2	39.9	..	54.8	8 9.24	— 0.14	1.58	5 8 7.52	+ 9.35
	Eunomia	18	11.9	..	29.1	46.3	..	..	..	21.3	38.9	..	56.0	57 3.92	0.20	1.58	5 57 2.14	..
	Uranus	19	..	..	39.1	55.2	..	11.5	..	27.9	44.3	..	..	7 11.60	— 0.15	1.58	6 7 9.87	..
	δ Ursæ Minoris, S. P.	20	20.0	49.5	27.0	47.5	29.0	10.2	49.5	32.2	49.5	29.0	54.0	15 8.85	+ 1.86	1.58	18 15 9.13	— 53.41
	γ Geminorum	21	14.8	..	30.4	45.9	..	1.2	..	17.1	33.0	..	48.4	30 1.54	— 0.14	1.57	6 29 59.83	+ 12.12
	51 Cephei	22	..	..	..	29.0	50.0	16.0	40.0	0.0	..	..	..	37 15.00	— 1.33	1.57	6 37 12.10	92.19
	Polaris, S. P.	23	..	..	..	3.0	23.0	34.0	44.0	2.0	..	..	..	10 33.20	+ 2.62	1.55	1 10 34.27	42.73
	α Virginis	24	24.2	..	39.5	54.8	..	9.9	..	25.1	40.7	..	56.4	18 10.09	— 0.12	1.55	13 18	+ 12.46
E.	δ Ursæ Minoris	25	0.0	32.5	54.5	33.0	51.0	12.5	31.0	49.0	30.8	52.0	26.0	15 12.03	1.86	1.95	18 15 8.22	— 53.43
29	Sun I	26	46.9	48.7	49.9	0.1	1.2	2.5	3.9	5.1	15.9	17.0	19.0	34 2.75	0.09	1.96	18 34 0.70	..
	Sun II	27	8.8	10.8	12.3	22.6	23.5	24.8	26.1	27.3	38.0	39.2	41.5	36 24.99	0.09	1.96	18 36 22.94	..
	α Aquilæ	28	0.6	2.6	4.0	13.5	14.5	15.7	16.9	18.0	27.8	29.0	30.9	44 15.77	— 0.08	1.98	19 44	+ 12.67
Tr.	β Tauri	29	37.0	39.0	40.5	51.2	52.2	53.3	55.0	56.3	7.2	8.5	10.6	17 53.70	+ 0.01	2.38	5 17 51.33	13.22
30	δ Orionis	30	58.8	0.9	2.1	11.4	12.4	13.6	14.9	15.8	25.4	26.6	28.8	25 13.70	— 0.07	2.38	5 25 11.25	10.62
	ϵ Orionis	31	14.0	15.7	17.1	26.6	27.5	28.8	29.9	31.0	40.8	41.8	44.1	29 28.85	0.07	2.38	5 29 26.40	10.54
	Moon I	32	48.7	50.7	52.2	2.3	3.6	4.8	6.1	7.3	17.9	18.9	20.9	37 4.85	0.02	2.38	5 37 2.45	..
	α Orionis	33	44.2	46.2	47.3	57.1	58.3	59.3	0.3	1.5	11.2	12.2	14.4	47 59.27	0.05	2.38	5 47 56.84	11.29
	ν Orionis	34	44.0	46.2	47.5	57.2	58.2	59.5	0.6	2.0	11.6	12.9	15.1	59 59.53	0.03	2.38	5 59 57.12	11.94
	Uranus I	35	10.8	12.1	13.4	14.7	17.3	..	22.8	25.4	26.7	28.2	29.6	6 50.10	0.25	2.38	6 6 47.47	..
	Uranus II	36	34.1	36.1	37.4	47.8	49.0	50.2	51.6	52.8	3.1	4.4	6.7	6 50.29	0.00	2.38	6 6 47.91	..
	μ Geminorum	37	39.6	41.5	42.9	52.9	54.1	55.3	56.8	58.0	8.2	9.5	11.9	14 55.52	0.00	2.38	6 14 53.14	+ 12.69
	δ Ursæ Minoris, S. P.	38	26.0	53.0	32.0	..	..	..	..	..	54.0	34.5	0.3	15 13.30	— 1.04	— 2.38	18 15	— 53.30

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.	
	h.	s.	s.	s.
Dec. 27,	2.5	— 1.71	+ 0.043	— 0.07
28,	5.1	1.58	+ 0.004	
29,	19.7	1.98	— 0.020	
30,	5.7	— 2.38	— 0.011	

		s.
December	27	+ 0.35.
	28. By P. and P. S. P., n. =	— 0.04.
	29–30	+ 0.17.

		r.	
January 1, 1866, 18h.	Image west 0.24.	Clamp east.	
	Image west 0.28.	Clamp west.	

Observations of the 27th and 28th made with eye and ear.

OBSERVATIONS

WITH

THE MURAL CIRCLE,

1865.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Ty'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correct'd.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Jan. 4	1	Sun S. L.	..	4	I-IV.	151 49 56.4	69.4	60.1	66.3	60.3	59.7	62.03	32.175	+ 0.855	33.030
	2	Sun N. L.	..	4	VI-IX.	151 14 56.3	68.2	59.5	66.1	60.0	59.6	61.62	27.614	..	28.469
	3	Venus	..	5	III-VII.	143 29 55.5	66.1	57.4	63.8	57.3	59.3	59.90	32.176	..	33.033
	4	Moon S. L.	..	3	III-VII.	120 49 58.6	70.2	61.7	68.1	59.2	60.1	62.98	29.778	..	30.631
	5	γ Fornacis	..	5	III-VII.	153 59 57.5	69.3	62.4	68.7	58.3	57.9	62.30	31.658	..	32.516
	6	Weisse II. 1001	9.0	3	III-VII.	116 44 55.7	68.2	59.6	66.8	56.5	57.4	60.70	28.793	..	29.646
	7	B. A. C. 987	7.0	5	I-IX.	116 19 56.1	68.0	59.0	66.2	56.7	57.5	60.58	27.022	..	27.871
	8	Weisse III, 139	8.8	1	V.	115 29 55.9	69.5	60.1	67.8	58.0	59.8	61.85	25.124	..	25.979
	9	Weisse III, 168	8.2	1	V.	" " "	"	"	"	"	"	"	25.045	..	25.900
	10	Lacaille 1113	..	3	VII-IX.	152 49 55.4	66.3	60.4	67.3	56.2	56.6	60.37	32.116	..	32.965
	11	O. Arg. S. 2388	9.0	5	I-IX.	" " "	"	"	"	"	"	"	29.523	..	30.389
	12	Lacaille 1171	6.5	5	III-VII.	157 49 56.0	67.6	60.0	67.4	56.9	55.9	60.63	32.767	..	33.626
	13	Lacaille 1239	6.5	5	I-IX.	155 19 56.3	67.5	60.5	67.0	68.0	56.2	62.58	32.251	..	33.118
	14	Lacaille 1284	..	1	V.	155 9 55.8	68.1	59.9	66.1	57.4	56.2	60.58	26.971	..	27.826
	15	O. Arg. S. 2666	..	1	V.	" " "	"	"	"	"	"	"	25.264	..	26.119
	16	Mars, centre	..	3	III-VII.	105 49 55.1	69.9	61.4	68.9	59.2	58.5	62.23	23.549	..	24.401
	17	O. Arg. S. 2848	..	1	V.	154 14 55.0	66.5	58.8	64.4	56.0	54.5	59.20	30.484	..	31.339
	18	Lacaille 1370	..	1	V.	" " "	"	"	"	"	"	"	27.971	..	28.826
	19	Nadir 4h. 25m.	..	3	..	269 59 56.4	67.5	60.0	68.0	58.2	57.6	61.28	29.184	..	..
	20	μ Eridani	5.0	5	I-IX.	132 24 56.3	69.3	60.7	68.6	57.9	57.1	61.65	32.793	..	33.649
	21	Uranus	..	3	VI, VIII, IX	105 14 56.0	70.9	62.5	70.5	61.1	59.5	63.42	26.514	..	27.342
	22	Euterpe	9.0	1	V.	" " "	"	"	"	"	"	"	23.751	..	24.606
	23	Anon. 6h. 40m. 42s.	9.3	1	IX.	" " "	"	"	"	"	"	"	24.888	..	25.700
5	24	Sun N. L.	..	4	I-IV.	151 9 55.8	69.3	60.0	68.1	59.0	58.0	61.70	31.025	..	31.910
	25	Sun S. L.	..	4	VI-IX.	151 44 56.8	69.9	60.7	68.4	60.0	58.8	62.43	35.767	..	36.612
	26	Venus, centre	..	5	III-VII.	143 4 56.1	68.2	59.0	67.1	59.7	59.9	61.67	34.752	..	35.609
	27	Moon S. L.	..	5	III-VII.	116 44 56.2	68.2	58.8	64.5	58.1	59.0	60.80	33.530	..	34.383
	28	Nadir 3h. 20m.	..	4	..	269 59 56.2	66.9	57.9	66.0	59.0	59.4	60.90	29.176	..	..
7	29	Weisse II, 970	..	5	I-IX.	135 54 56.0	70.0	60.9	67.0	60.0	59.8	62.28	30.896	+ 0.906	31.805
	30	Weisse III, 251	9.0	1	V.	120 9 55.9	68.6	59.0	64.8	58.1	58.3	60.78	32.371	..	33.277
	31	η Tauri	..	1	V.	105 9 55.0	70.0	60.9	67.5	58.9	60.0	62.05	24.815	..	25.721
	32	28 Tauri	..	1	V.	" " "	"	"	"	"	"	"	28.985	..	29.891
	33	Mars	..	3	I-V.	105 49 54.4	70.0	60.7	65.5	58.8	58.9	61.38	25.138	..	26.047
	34	Moon S. L.	..	5	I-IX.	111 4 55.0	67.9	61.4	65.6	57.0	57.4	60.72	24.845	..	25.743
	35	Weisse (2) V, 111	..	1	V.	98 44 54.4	70.0	59.5	66.4	58.7	57.4	61.07	39.930	..	40.836
	36	B. A. C. 1708	..	2	III, VII.	140 54 54.3	67.5	59.7	65.0	56.4	55.3	59.70	31.815	..	32.725
	37	B. A. C. 1775	..	1	VIII.	157 39 52.3	65.5	58.9	64.5	54.7	53.1	58.17	30.895	..	31.800
	38	B. A. C. 1787	..	1	VI.	" " "	"	"	"	"	"	"	33.382	..	34.284
	39	Uranus	..	3	IV-VI.	105 14 57.0	71.8	63.1	70.5	59.3	61.4	63.85	26.090	..	26.995
	40	Lacaille 2096	..	3	III-VII.	154 19 55.5	68.3	61.5	66.0	56.2	56.1	60.60	34.817	..	35.728
	41	Lacaille 2198	..	5	I-IX.	158 24 55.3	69.8	62.6	68.0	57.7	56.7	61.68	28.784	..	29.704
	42	Lacaille 2288	..	5	I-IX.	155 54 56.1	68.1	60.0	67.1	56.8	55.6	60.62	28.794	..	29.713
	43	Euterpe	..	1	VI.	105 9 55.6	71.8	62.0	69.9	60.0	60.6	63.32	26.705	..	27.602
	44	22 Canis Majoris	..	1	V.	156 34 57.0	70.0	62.0	69.5	60.6	57.0	62.68	27.127	..	28.033
	45	Nadir 7h. 20m.	..	5	..	269 59 57.0	72.0	62.0	71.5	59.7	59.6	63.63	29.212	..	..
9	46	Sun S. L.	..	4	I-IV.	151 9 56.4	64.9	58.8	63.4	57.9	57.7	59.85	29.093	+ 0.863	29.987
	47	Sun N. L.	..	4	VI-IX.	150 39 56.1	66.1	59.8	63.5	59.6	57.7	60.38	34.032	..	34.884
10	48	α Lyræ	..	5	I-IX.	90 14 56.6	70.7	61.4	67.8	60.9	61.0	63.07	31.186	..	32.029
11	49	Sun N. L.	..	3	II-IV.	150 19 55.5	66.7	59.1	65.6	58.0	56.9	60.30	30.976	..	31.861
	50	Sun S. L.	..	4	VI-IX.	150 49 54.1	66.6	59.0	64.8	58.1	56.4	59.83	26.151	..	27.002
	51	Venus S. L.	..	3	I-IX.	140 14 53.7	65.0	54.9	62.3	55.9	55.2	57.83	23.872	..	24.742
	52	Venus N. C.	..	2	III, VII.	" " "	"	"	"	"	"	"	24.454	..	25.320
	53	δ Ceti	..	5	I-IX.	129 9 53.5	64.9	54.9	62.2	56.6	55.7	57.97	32.508	..	33.371
	54	Lacaille 865	7.5	5	I-IX.	154 44 54.7	66.0	58.0	63.7	57.0	57.4	59.47	27.565	..	28.440
	55	Lacaille 900	7.5	1	V.	159 49 54.9	65.2	59.8	65.5	56.7	55.8	59.65	27.800	..	28.663
	56	Weisse II, 1001	8.7	1	V.	116 44 55.1	66.6	58.2	63.9	57.0	57.5	59.72	28.766	..	29.629
	57	B. A. C. 987	7.2	5	I-IX.	116 19 55.7	66.4	57.0	63.3	56.5	57.5	59.40	26.957	..	27.815
	58	Weisse III, 139	9.0	5	I-IX.	115 29 56.0	68.1	58.8	65.2	58.9	59.9	61.15	25.073	..	25.930
	59	τ^2 Arietis	5.0	1	V.	108 39 55.5	67.3	58.0	64.1	57.1	58.8	60.13	23.230	..	34.093
	60	δ Persei	..	2	I, III.	81 34 54.8	65.6	57.9	64.2	57.4	57.9	59.63	33.893	..	34.739
	61	δ Persei, (Ref.)	..	4	VI-IX.	278 29 55.1	65.1	57.7	62.6	57.8	56.9	59.20	33.922	..	34.797
	62	Nadir 3h. 45m.	..	4	..	269 59 55.2	65.6	58.1	64.2	58.4	57.2	59.78	29.126	..	..
	63	Anon. 3h. 51m. 1s.	7.3	1	IX.	147 49 54.7	64.3	58.2	63.0	55.9	55.4	58.58	31.025	..	31.883
	64	Mars, centre	..	5	I-IX.	105 49 54.1	66.9	58.8	64.6	58.9	58.0	60.22	30.596	..	31.448

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ″ ′	″		
1	30.072	36.5	30.4	— 1 35.8	+ 1 45.3	61 50 11.5	— 22 40 12.9		Ha.	
2	. .	. .	. .	+ 48.2	1 43.0	61 17 32.8				
3	30.096	37.5	30.5	— 1 35.0	+ 1 15.6	53 29 40.5	— 14 36 1.3		N.	
4	30.147	30.5	26.8	19.7	— 45 27.3	30 4 15.9	+ 8 49 23.3			
5	30.210	29.5	25.1	— 1 18.8	+ 2 6.1	64 0 49.6	— 25 7 10.4	+ 87.0		
6	. .	. .	. .	+ 11.1	31.2	26 45 43.0	+ 12 7 56.2	72.2		
7	. .	. .	. .	1 6.7	30.7	26 21 37.9	12 32 1.3	70.5		
8	. .	. .	. .	2 5.9	29.6	25 32 37.3	13 21 1.9	68.9		
9	. .	. .	. .	+ 2 8.4	29.6	25 32 39.8	+ 13 20 59.4	68.5		
10	30.235	29.0	24.1	— 1 32.9	2 0.2	62 50 27.6	— 23 56 48.4	74.7		
11	. .	. .	. .	12.2	2 0.3	62 51 48.4	23 58 9.2	72.7		
12	. .	. .	. .	1 53.5	2 31.0	67 50 38.1	28 56 58.9	72.6		Whole number of revolutions not recorded. Re-observed January 5, 1866.
13	. .	. .	. .	— 1 37.6	2 14.3	65 20 39.2	26 27 0.0	68.9		
14	. .	. .	. .	+ 1 8.1	2 13.6	65 13 22.2	26 19 43.0	66.8		
15	. .	. .	. .	2 1.5	2 13.7	65 14 15.7	— 26 20 36.5	66.4		
16	30.247	28.7	23.7	+ 2 55.3	14.3	15 53 11.8	+ 23 0 27.4			
17	. .	. .	. .	— 41.9	2 8.0	64 16 25.3	— 25 22 46.1	61.4		Whole number of revolutions assumed.
18	. .	. .	. .	+ 36.7	2 8.2	64 17 44.1	25 24 4.9	61.0		
19										
20	. .	. .	. .	— 1 54.2	56.7	42 24 4.1	— 3 30 24.9	+ 43.4		
21	30.256	27.0	20.7	+ 1 23.2	17.0	15 16 43.6	+ 23 36 55.6			Unsteady. Whole number revolutions recorded, 25.
22	. .	. .	. .	2 48.9	17.2	15 18 9.5	23 35 29.7			
23	30.260	26.0	18.5	+ 2 14.6	17.2	15 17 35.2	+ 23 36 4.0	— 24.0		
24	30.220	29.5	29.8	— 59.8	1 43.2	61 10 45.1	— 22 33 23.9		Ha.	
25	. .	. .	. .	3 27.0	1 45.7	61 43 21.1				
26	30.164	33.0	32.5	2 55.6	+ 1 14.2	53 3 20.2	— 14 9 41.0			
27	30.132	32.5	29.1	2 17.2	— 41 33.0	26 1 10.6	+ 12 52 28.6			
28										
29	30.052	32.3	24.8	0 56.5	+ 1 3.4	45 55 9.1	— 7 1 29.9	+ 79.0	D.	
30	30.080	31.0	21.5:	— 1 42.6	35.8	30 8 53.9	+ 8 44 45.3	69.0		Barometer and thermometer taken at 3h. 23m.
31	. .	. .	. .	+ 2 14.0	16.8	15 12 32.8	23 41 6.4	57.4		
32	. .	. .	. .	3.4	16.7	15 10 5.4	23 43 17.1	56.9		Whole revolutions recorded, 38.
33	. .	. .	. .	2 3.8	+ 14.3	15 52 19.4	23 1 19.8			
34	30.074	30.2	23.0	+ 2 13.3	— 35 52.3	20 31 21.7	18 22 17.5			
35	30.186	29.0	21.3	— 5 39.2	+ 9.5	8 39 31.3	+ 30 14 7.9	27.3		
36	. .	. .	. .	1 25.3	1 16.5	50 54 50.9	— 12 1 11.7	28.5		
37	. .	. .	. .	56.3	2 30.7	67 41 32.5	28 47 53.3	26.2		Recorded against wire VII, but the time noted indicates VIII; difference 0.″1.
38	30.196	28.2	20.9	— 2 14.1	2 30.5	67 40 14.5	— 28 46 35.3	25.4		
39	. .	. .	. .	+ 1 34.1	16.9	15 16 54.8	+ 23 36 44.4			Wires in Microscope F jerk.
40	. .	. .	. .	— 2 59.4	2 9.0	64 19 10.2	— 25 25 31.0	14.7		
41	30.204	27.5	19.9	+ 9.3	2 36.9	68 27 47.8	29 34 8.6	8.7		
42	. .	. .	. .	9.0	2 19.2	65 57 28.8	— 27 3 49.6	+ 2.5		
43	30.225	. .	19.4	1 15.1	17.0	15 11 35.4	+ 23 42 3.8			Barometer and thermometer at 6h. 41m.
44	. .	. .	. .	1 1.6	2 23.9	66 38 28.1	— 27 44 48.9	— 12.9		
45										
46	30.320	33.0	34.8	+ 0.4	1 42.5	61 11 42.7	— 22 1 45.9		Ha.	
47	. .	. .	. .	— 2 32.9	1 40.7	60 39 7.5				
48	. .	. .	. .	1 3.5	0.3	0 13 59.8	+ 38 39 39.4	+ 11.8	N.	Very unsteady.
49	. .	. .	. .	— 58.3	1 38.1	60 20 40.1	— 21 43 17.9			
50	29.960	34.1	32.0	+ 1 33.9	1 40.4	60 53 14.1				
51	30.027	36.0	33.1	2 44.6	1 6.2	50 18 48.6	11 25 0.2			
52	. .	. .	. .	+ 2 26.5	1 6.2	50 18 30.5				
53	30.105	33.3	28.0	— 1 45.5	49.8	39 9 2.2	0 15 23.0	82.9		
54	. .	. .	. .	+ 48.8	2 9.2	64 47 57.4	25 54 18.2	89.0		
55	. .	. .	. .	41.9	2 45.5	69 53 27.0	— 30 59 47.8	89.0		
56	. .	. .	. .	11.6	30.9	26 45 42.2	+ 12 7 57.0	72.7		
57	. .	. .	. .	1 8.4	30.3	26 21 38.1	12 32 1.1	70.9		
58	. .	. .	. .	+ 2 7.4	29.3	25 32 37.8	13 21 1.4	69.3		
59	30.111	32.2	27.8	— 2 8.2	+ 20.6	18 38 12.5	20 15 26.7	65.5		
60	. .	. .	. .	2 28.4	— 9.1	351 32 22.1	47 21 17.1	+ 52.8		
61	. .	. .	. .	2 30.2	+ 9.1	8 27 38.1	+ 47 21 17.4			
62										
63	. .	. .	. .	59.0	1 37.2	57 50 36.7	— 18 56 57.5			
64	30.124	32.0	27.4	— 45.4	+ 14.3	15 49 29.1	+ 28 4 10.1			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correct'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Jan. 11	1	ω Tauri	5.0	1	V.	108 39 54.3	67.0	57.5	62.8	57.0	57.2	59.30	31.579	+ 0.863	32.442
	2	Lacaille 1431	6.5	5	I–IX.	154 4 54.7	66.6	59.2	63.6	57.4	55.5	59.50	30.483	. .	31.356
	3	α Tauri, (Ref.)	. .	4	I–IV.	247 19 54.8	64.9	59.3	66.4	59.0	58.7	60.52	27.596	. .	28.480
	4	α Tauri	. .	3	VII–IX.	112 39 54.2	65.9	57.7	63.0	57.4	56.7	59.15	30.698	. .	31.555
	5	Weisse (2) IV, 1261	7.7	5	I–IX.	101 24 54.1	66.7	56.7	64.5	57.8	57.0	59.47	32.569	. .	33.419
	6	Uranus	. .	1	V.	105 14 53.5	66.3	58.0	64.8	58.6	57.1	59.72	25.644	. .	26.507
	7	Moon S. L.	. .	4	I–IV.	113 19 54.6	67.7	58.6	64.9	58.1	57.0	60.15	40.317	. .	41.167
	8	Moon N. L.	. .	3	VII–IX.	112 49 55.3	68.0	59.5	65.7	59.8	58.4	61.12	41.564	. .	42.545
	9	α Lyræ	. .	1	V.	90 14 55.9	69.1	59.9	66.0	59.9	60.1	61.82	31.125	. .	31.988
12	10	Sun N. L.	. .	2	I, III.	150 9 55.1	67.9	58.4	64.8	58.5	57.3	60.33	30.654	. .	31.556
	11	Sun S. L.	. .	2	VII, IX.	150 44 52.2	64.8	56.1	61.8	56.8	54.3	57.67	35.251	. .	36.099
	12	Venus	. .	5	I–IX.	139 49 53.9	66.8	55.0	62.1	58.3	57.5	58.93	30.731	. .	31.599
	13	Nadir 1h. 5m.	. .	5	. .	269 59 54.6	63.9	54.7	60.9	58.0	58.5	58.43	29.090	. .	. .
	14	Weisse I, 381	. .	1	IX.	135 9 55.0	66.3	57.1	61.3	58.9	60.5	59.85	28.438	. .	29.328
	15	Weisse I, 402	. .	1	IX.	" " "	"	"	"	"	"	"	34.535	. .	35.425
	16	Weisse I, 732	. .	1	V.	115 24 57.3	67.9	58.6	62.7	59.0	62.1	61.27	19.995	. .	20.858
	17	Weisse I, 1045	. .	1	V.	119 4 57.7	67.8	57.2	62.3	59.6	60.3	60.82	32.715	. .	33.577
	18	Weisse II, 235	. .	1	V.	120 59 56.5	67.2	57.3	62.9	60.0	59.2	60.52	34.277	. .	35.140
	19	B. A. C. 773	. .	1	V.	152 4 56.7	67.1	59.7	63.8	60.6	60.2	61.35	21.263	. .	22.121
	20	B. A. C. 775	. .	1	VIII.	" " "	"	"	"	"	"	"	37.487	. .	38.345
	21	γ Ceti	. .	3	III–VII.	126 14 56.7	68.0	58.9	62.1	60.2	59.7	60.93	32.896	. .	33.759
	22	Weisse II, 970	. .	5	I–IX.	135 54 54.0	67.2	55.9	61.8	60.0	58.6	59.58	30.824	. .	31.690
	23	60 Arietis	. .	5	I–IX.	103 44 54.6	66.0	57.5	62.2	57.9	59.8	59.67	33.109	. .	33.960
	24	B. A. C. 1109	. .	5	I–IX.	161 14 53.8	64.9	58.0	61.9	57.0	57.2	58.80	37.498	. .	38.377
	25	17 Tauri	. .	1	VII.	105 9 52.9	66.7	56.0	61.8	58.5	59.1	59.17	24.851	. .	25.696
	26	η Tauri	. .	1	V.	" " "	"	"	"	"	"	"	24.798	. .	25.661
	27	28 Tauri	. .	1	IV.	" " "	"	"	"	"	"	"	28.944	. .	29.812
	28	27 Tauri	. .	1	IX.	" " "	"	"	"	"	"	"	19.295	. .	20.114
	29	Mars	. .	5	I–IX.	105 49 51.6	65.5	55.4	60.0	57.7	57.0	57.87	32.409	. .	33.261
	30	ω^2 Tauri	. .	5	I–IX.	108 39 52.2	64.6	53.8	61.5	55.5	56.3	57.32	31.439	. .	32.292
	31	η Ursæ Minoris, S. P.	. .	1	IV.	24 59 53.9	65.1	58.0	64.0	56.5	56.6	59.02	29.908	. .	30.795
	32	Weisse IV, 754	. .	1	VII.	126 9 53.5	66.2	55.1	60.5	57.2	56.4	58.15	30.509	. .	31.359
	33	Weisse (2) IV, 1257	. .	1	IV.	98 39 54.0	67.3	57.1	62.7	59.8	58.6	59.92	27.405	. .	28.272
	34	Weisse (2) IV, 1258	. .	1	VIII.	" " "	"	"	"	"	"	"	24.612	. .	25.441
	35	Lacaille 1780	. .	3	III–VII.	165 39 54.5	66.1	55.5	63.2	56.7	56.5	58.75	32.104	. .	32.975
	36	ε Orionis	. .	3	III–VII.	130 9 53.2	65.7	54.4	61.0	57.1	57.4	58.13	28.323	. .	29.186
	37	Uranus	. .	5	I–IX.	105 14 56.1	70.0	59.8	66.1	61.8	62.0	62.63	25.553	. .	26.405
	38	B. A. C. 1995	. .	3	III–VII.	155 59 53.0	64.6	55.8	61.8	51.3	55.9	57.07	30.590	. .	31.456
	39	Weisse (2) VI, 421	9.0	1	V.	84 24 51.5	64.4	56.9	62.6	57.5	59.0	58.65	27.214	. .	28.077
	40	B. A. C. 2127	. .	1	V.	156 34 54.8	67.0	57.9	65.0	58.9	58.0	60.27	34.505	. .	35.368
	41	Euterpe	. .	1	IX.	104 59 56.5	70.9	62.0	67.7	62.5	62.0	63.60	26.568	. .	27.385
	42	Nadir 6h. 50m.	. .	3	. .	269 59 54.1	65.2	56.5	63.8	57.6	58.6	59.30	29.115	. .	. .
	43	O. Arg. S. 6270	. .	1	V.	152 39 54.0	66.0	59.0	63.5	58.4	57.8	59.78	21.805	. .	22.668
	44	Lacaille 2634	. .	1	VI.	" " "	"	"	"	"	"	"	25.881	.	26.739
	45	Anon. 7h. 16m. 28s.	. .	1	V.	164 29 54.0	67.6	59.0	65.4	59.2	59.2	60.73	29.046	. .	29.909
	46	Lacaille 2767	. .	1	V.	" " "	"	"	"	"	"	"	31.998	. .	32.861
	47	β Geminorum	. .	1	V.	100 29 51.7	63.9	54.5	61.0	55.6	56.8	57.25	23.834	. .	24.697
	48	ε Draconis, S. P.	. .	5	VII–III.	18 49 50.3	62.8	55.0	61.5	55.6	53.9	56.52	24.785	. .	25.669
	49	Anon. 7h. 59m. 0s.	. .	1	V.	134 9 50.1	64.2	53.8	59.8	55.3	55.6	56.47	26.765	. .	27.628
	50	Moon S. L.	. .	5	I–IX.	116 9 53.4	67.0	56.7	61.4	57.0	58.0	58.92	32.853	. .	33.710
13	51	Sun S. L.	. .	4	I–IV.	150 34 56.0	66.8	59.0	64.1	59.3	59.2	60.73	35.784	. .	36.679
	52	Sun N. L.	. .	4	VI–IX.	149 59 56.1	66.5	59.0	64.8	59.9	59.1	60.90	31.060	. .	31.910
	53	Nadir 3h. 50m.	. .	4	. .	269 59 56.0	64.3	57.0	62.0	59.1	60.0	59.73	29.136	. .	. .
14	54	Sun N. L.	. .	2	I, VII.	149 49 55.4	65.2	58.0	62.6	58.4	58.9	59.75	32.160	+ 0.880	33.077
	55	60 Arietis	. .	3	VII–IX.	103 44 55.0	63.7	57.2	62.1	57.2	59.4	59.10	33.125	. .	33.974
	56	τ^3 Arietis	. .	1	V.	108 39 55.9	66.0	57.3	61.5	57.6	60.2	59.75	33.175	. .	34.055
	57	Lacaille 1113	. .	5	I–IX.	152 49 56.1	65.3	59.0	63.2	57.6	59.3	60.08	31.925	. .	32.816
	58	B. A. C. 1109	. .	3	III, IV, VII.	161 9 55.6	64.9	60.2	62.7	56.8	57.3	59.58	27.793	. .	28.680
	59	Mars, centre	. .	5	I–IX.	105 44 55.6	67.1	59.3	64.4	60.9	60.6	61.32	27.379	. .	28.248
	60	Anon. 4h. 7m. 58s.	. .	5	III–VII.	160 29 55.8	64.8	60.3	62.9	57.3	58.5	59.93	31.419	. .	32.304
	61	B. A. C. 1334	. .	1	V.	152 9 55.8	65.2	58.8	62.6	57.9	58.2	59.75	28.965	. .	29.845
	62	Lacaille 1431	. .	4	III–IX.	154 4 55.8	65.9	59.1	62.1	57.5	57.7	59.68	30.381	. .	31.266
	63	Nadir 5h. 30m.	. .	4	. .	269 59 55.7	64.9	57.6	63.2	57.7	58.9	59.67	29.110	. .	. .
	64	Lacaille 1495	. .	5	III–VII.	158 39 56.3	67.3	60.0	64.9	58.2	57.9	60.77	31.280	. .	32.164
	65	B. A. C. 1851	6.0	1	V.	119 4 55.5	65.3	55.8	61.4	56.3	57.4	58.62	31.714	. .	32.594
	66	Weisse V, 1200	. .	5	III–VII.	132 59 55.5	66.5	58.2	63.8	57.9	59.4	60.22	32.044	. .	32.925

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 1 16.5	+ 20.7	18 39 3.5	+ 20 14 35.7	+ 48.9	N.	
2	30.123	31.7	27.5	— 42.4	+ 2 5.6	64 6 22.7	— 25 12 43.5	57.2		
3	. .	. .	. .	+ 47.6	— 25.6	337 20 22.5	+ 16 14 1.7	43.6		
4	. .	. .	. .	— 48.1	+ 25.6	22 39 36.6	16 14 2.6			
5	30.125	31.5	26.1	— 1 47.0	12.4	11 23 24.8	27 30 14.4	31.0		
6	. .	. .	. .	+ 1 49.3	+ 16.7	15 17 5.7	23 36 33.5			
7	. .	. .	. .	— 5 46.5	— 21 13.3	22 53 0.3	16 15 50.5			Cor. for def. ill. = + 4″.80.
8	30.138	30.0	24.4	6 32.8	— 20 51.2	22 22 37.1				
9	. .	. .	. .	1 2.2	+ 0.2	0 13 59.8	+ 38 39 39.4		Ha.	
10	. .	. .	. .	48.7	1 37.3	60 10 48.9	— 21 33 28.4	12.1	D.	
11	30.207	34.8	36.5	3 10.9	1 39.6	60 43 26.3				
12	30.178	38.7	39.2	— 50.1	1 4.5	49 50 13.3	10 56 34.1			
13	. .	. .	. .							
14	. .	. .	. .	+ 21.0	1 1.0	45 11 21.8	6 17 42.6	97.1		
15	30.157	38.5	33.1	— 2 49.8	1 0.9	45 8 10.9	— 6 14 31.7	96.9		
16	. .	. .	. .	+ 4 46.2	29.0	25 30 16.4	+ 13 23 22.8	87.8		
17	30.156	38.0	32.1	— 1 52.0	33.8	29 3 42.6	9 49 56.6	86.2		
18	. .	. .	. .	— 2 40.9	36.5	30 57 56.1	+ 7 55 43.1	83.8		Circle reading recorded 119° 59′, &c.
19	. .	. .	. .	+ 4 6.6	1 54.7	62 11 2.6	— 23 17 23.4	92.3		Wires in Microscope F move unsteadily. Whole rev. recorded, 16.
20	30.152	37.7	31.5	— 4 21.3	1 54.1	62 2 34.1	— 23 8 54.9	92.0		
21	. .	. .	. .	1 57.7	44.6	36 13 47.8	+ 2 39 51.4	81.1		
22	. .	. .	. .	52.9	1 2.8	45 55 9.4	— 7 1 30.2	79.5		
23	30.146	36.7	31.1	2 4.0	14.8	13 43 10.4	+ 25 10 28.8	64.7		
24	. .	. .	. .	— 4 22.3	2 56.9	71 13 33.4	— 32 19 54.2	76.3		
25	. .	. .	. .	+ 2 14.7	16.5	15 12 30.3	+ 23 41 8.9	58.1		
26	. .	. .	. .	2 15.8	16.5	15 12 31.4	23 41 7.8	57.4		Bright; three small stars preceding.
27	. .	. .	. .	5.9	16.5	15 10 21.5	23 43 17.7	56.9		
28	. .	. .	. .	+ 5 9.5	16.6	15 15 25.2	23 38 14.0	56.9		
29	30.138	36.0	31.7	— 1 42.1	14.1	15 48 29.8	23 5 9.4			
30	. .	. .	. .	1 11.8	+ 20.5	18 39 6.0	20 14 33.2	+ 48.9		
31	30.132	36.0	32.0	24.9	— 2 9.7	294 57 24.4	76 3 45.2	— 32.9		
32	. .	. .	. .	— 42.5	+ 44.4	36 10 0.0	2 43 39.2	+ 44.4		
33	. .	. .	. .	+ 54.1	9.3	8 41 3.3	30 12 35.9	30.4		
34	. .	. .	. .	+ 2 22.7	9.3	8 42 31.9	+ 30 11 7.3	30.4		Small; brighter star preceding north.
35	. .	. .	. .	— 1 33.2	3 54.0	75 42 19.5	— 36 48 40.3	37.3		
36	30.128	35.0	30.5	+ 25.5	51.4	40 11 15.0	— 1 17 35.8	23.9		I think it has a very faint companion preceding north.
37	. .	. .	30.8	+ 1 52.6	16.5	15 17 11.7	+ 23 36 27.5			
38	30.124	35.0	30.0	— 45.7	+ 2 16.2	66 1 27.5	— 27 7 48.3	+ 11.7		
39	. .	. .	. .	+ 1 0.2	— 5.9	354 25 52.9	+ 44 27 46.3	— 0.8		
40	. .	. .	. .	— 2 48.1	+ 2 19.7	66 34 31.8	— 27 40 52.6	+ 2.6		
41	30.111	34.5	29.5	+ 1 21.9	16.4	15 1 41.9	+ 23 51 57.3			
42										
43	. .	. .	. .	3 49.6	1 58.1	62 45 47.4	— 23 52 8.2	— 14.4		Mic. recorded 22.805. Reobserved January 18.
44	. .	. .	. .	1 42.1	1 58.0	62 43 39.8	23 50 0.6	14.6		
45	. .	. .	. .	+ 2.8	3 37.6	74 33 41.1	35 40 1.9	20.6		
46	30.100	34.5	28.0	— 5 8.8	3 36.3	74 28 28.2	— 35 34 49.0	21.0		
47	. .	. .	. .	+ 2 46.0	+ 11.4	10 32 54.6	+ 28 20 44.6	— 28.5		Circle reading recorded 100° 24′, &c.
48	. .	. .	. .	2 15.6	— 2 57.5	288 49 14.6	+ 69 55 35.4	+ 35.5		
49	. .	. .	. .	+ 1 14.2	+ 59.5	44 12 10.1	— 5 18 30.9	— 37.3		
50	30.088	33.5	27.0	— 1 56.2	— 38 38.0	25 29 24.7	+ 13 24 14.5			
51	30.098	39.0	42.9	3 29.1	+ 1 37.1	60 33 8.7	— 21 23 13.1		Ha.	
52	. .	. .	. .	59.8	1 34.9	60 0 36.0				
53										
54	29.622	41.2	41.4	1 36.3	17 50.8	60 6 14.2	— 21 12 35.0		N.	Clouds.
55	. .	. .	. .	2 4.4	14.6	13 43 9.3	+ 25 10 29.9	+ 64.6		
56	29.722	37.5	32.8	2 7.0	20.2	18 38 12.9	+ 20 15 26.3	65.5		
57	. .	. .	. .	— 1 28.2	1 56.0	62 50 27.8	— 23 56 48.6	76.3		
58	29.719	37.3	32.8	+ 41.3	2 53.8	71 13 34.6	— 32 19 55.4	76.6		Through clouds.
59	29.701	36.5	33.0	+ 54.9	13.9	15 46 10.1	+ 23 7 29.1			
60	. .	. .	. .	— 1 12.1	2 47.2	70 31 35.0	— 31 37 55.8	62.6		
61	. .	. .	. .	+ 4.9	1 52.8	62 11 57.4	23 18 18.2	59.4		
62	29.716	36.7	32.7	— 39.8	2 2.5	64 6 22.3	25 12 43.1	57.6		Barometer and thermometer at 4h. 27m.
63										
64	29.732	36.5	31.9	1 7.7	2 32.3	68 41 25.3	— 29 47 46.1	25.7		
65	. .	. .	. .	1 21.2	33.3	29 4 10.7	+ 9 49 28.5	16.8		
66	. .	. .	. .	— 1 31.6	+ 55.9	42 59 24.5	— 4 5 45.3	+ 16.8		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd
						° ′ ″	″	″	″	″	″	″	r.	r.	r.
1865.															
Jan. 16	1	Sun S. L.		4	I-IV.	149 59 55.5	68.7	61.5	67.9	59.0	56.9	61.58	32.306	+ 0.880	33.219
	2	Sun N. L.		4	VI-IX.	149 24 56.1	68.1	60.0	66.4	58.3	56.1	60.83	27.735	. .	28.6[illegible]
	3	Venus S. L.		3	I-IX.	137 54 56.0	69.7	56.7	65.0	59.1	57.3	60.63	32.572	. .	33.457
	4	Venus N. L.		2	III, VII.	" " "	"	"	"	"	"	"	33.135	. .	34.017
	5	γ^1 Eridani		1	V.	142 44 56.4	69.9	61.0	68.0	59.0	58.5	62.13	26.972	. .	27.852
	6	Mars, centre		5	III-VII.	105 44 55.9	70.1	61.0	69.1	61.6	60.0	62.95	32.713	. .	33.590
	7	γ Tauri		1	V.	113 34 56.2	69.5	60.2	69.0	58.9	59.0	62.13	28.594	. .	29.474
	8	α Tauri, (Ref.)		3	I, V, VI.	247 19 57.0	68.2	61.4	70.4	60.3	61.0	63.05	27.668	. .	28.55[illegible]
	9	α Tauri		1	IX.	112 39 56.6	69.3	60.5	67.0	59.2	58.3	61.82	30.773	. .	31.617
	10	ι Aurigæ, (Ref.)		3	VI, VII, IX.	264 4 57.5	70.0	62.0	71.0	61.1	61.8	63.90	32.331	. .	33.211
	11	α Aurigæ, (Ref.)		4	I-IV.	276 59 56.9	68.3	60.8	68.2	59.6	59.2	62.17	33.763	. .	34.682
	12	α Aurigæ		4	VI-IX.	82 59 57.0	70.3	62.1	70.6	61.4	61.9	63.88	24.799	. .	25.640
	13	β Tauri, (Ref.)		3	II, III, V.	259 34 57.0	69.0	61.1	71.3	60.5	62.0	63.48	27.532	. .	28.428
	14	β Tauri		2	VIII, IX.	100 24 56.2	69.1	59.8	68.0	59.5	59.0	61.93	30.936	. .	31.775
	15	δ Orionis		1	V.	129 19 54.9	67.2	57.1	65.2	57.9	56.0	59.72	34.714	. .	35.594
	16	Uranus, centre		1	V.	105 14 55.0	70.0	60.6	68.3	60.7	59.0	62.27	25.175	. .	26.055
	17	Nadir 5h. 55m.		4	. .	269 59 55.1	66.5	57.9	66.5	57.5	57.9	60.23	29.127	. .	. .
	18	δ Ursæ Minoris, S. P.		3	. .	35 29 55.4	68.0	60.4	69.1	58.8	57.0	61.45	26.520	. .	27.427
	19	α Canis Majoris		5	I-IX.	145 24 56.0	67.2	59.0	66.5	59.0	57.7	60.90	30.301	. .	31.18[illegible]
	20	Lacaille 2496		1	V.	153 14 56.8	68.1	60.7	68.0	59.1	58.5	61.87	30.735	. .	31.615
	21	44 Geminorum		1	V.	106 4 57.5	73.1	63.6	72.0	63.3	60.2	64.95	32.524	. .	33.404
	22	δ Geminorum		1	V.	106 39 55.0	69.9	61.0	67.3	59.4	57.8	61.73	29.500	. .	30.380
17	23	Sun N. L.		2	I-III.	149 14 57.2	68.7	60.2	68.3	57.5	57.5	61.57	31.154	. .	32.075
	24	Sun S. L.		2	VII-IX.	149 49 55.5	69.0	59.6	68.0	58.0	57.8	61.32	35.975	. .	36.85[illegible]
18	25	Nadir 6h. 50m.		3	. .	269 59 57.2	69.1	60.5	69.4	59.0	58.3	62.25	29.224	. .	. .
	26	Lacaille 2558		1	V.	156 34 56.5	69.2	60.9	69.5	59.1	56.6	61.97	31.305	+ 0.848	32.153
	27	O. Arg. S. 6270	7.5	1	V.	152 44 57.2	68.9	62.1	68.7	58.9	57.1	62.15	31.631	. .	32.479
	28	Lacaille 2634	6.5	1	V.	" " "	"	"	"	"	"	"	35.612	. .	36.460
	29	27 Canis Majoris	5.0	1	V.	154 59 58.0	70.1	62.4	69.0	60.6	58.7	63.13	31.257	. .	32.105
	30	Weisse VII, 387	9.0	1	V.	115 44 55.7	68.0	59.0	67.0	57.6	57.9	60.87	24.790	. .	25.63[illegible]
	31	Lacaille 2792	6.0:	1	V.	153 49 55.3	67.8	59.3	66.9	56.4	54.2	59.98	31.239	. .	32.087
	32	O. Arg. S. 7026		3	I-IX.	156 54 55.8	67.6	60.6	67.3	59.0	55.1	60.90	31.742	. .	32.607
	33	Lacaille 2867	5.0	5	I-IX.	" " "	"	"	"	"	"	"	27.678	. .	28.539
	34	Anon. 7h. 42m. 49s.	9.3	1	V.	154 14 55.9	68.3	61.1	66.2	58.0	54.6	60.68	25.255	. .	26.103
	35	Anon. 7h. 43m. 49s.	9.0	1	VIII.	" " "	"	"	"	"	"	"	23.696	. .	24.535
	36	B. A. C. 2655	4.7	1	V.	158 49 56.0	70.1	62.5	70.2	59.3	56.1	62.37	30.057	. .	30.905
	37	Angelina	9.7	1	VII.	109 4 55.0	68.5	58.9	66.5	57.1	56.0	60.33	29.716	. .	30.546
20	38	Sun S. L.		4	I-IV.	149 9 56.8	69.0	59.5	67.1	60.0	56.8	61.53	31.998	+ 0.831	32.868
	39	Sun N. L.		4	VI-IX.	148 34 57.2	70.9	61.0	68.0	61.5	57.2	62.63	27.409	. .	28.219
	40	Venus S. L.		5	I-IX.	135 54 58.0	70.8	60.1	66.9	63.5	61.0	63.38	31.497	. .	32.331
	41	Venus N. L.		4	II-VIII.	" " "	"	"	"	"	"	"	32.022	. .	32.855
	42	Mars		5	I-IX.	105 34 58.0	72.9	63.0	69.1	65.8	63.2	65.33	26.317	. .	27.137
	43	α Aurigæ, (Ref.)		4	I-IV.	276 59 53.0	63.3	56.0	61.9	57.0	56.1	57.88	33.619	. .	34.494
	44	α Aurigæ		4	VI-IX.	82 59 53.0	65.8	57.8	63.6	58.4	58.0	59.43	24.683	. .	25.470
	45	β Tauri, (Ref.)		4	I-IV.	259 34 54.0	65.0	57.0	64.0	58.1	59.0	59.52	27.442	. .	28.305
	46	β Tauri		4	VI-IX.	100 24 53.2	65.3	56.0	62.0	58.0	56.1	58.43	30.838	. .	31.637
	47	B. A. C. 1706		3	1-5.	53 54 52.5	65.1	56.9	63.0	58.5	57.1	58.85	24.319	. .	25.149
	48	ϵ Orionis		4	VI-IX.	130 9 52.7	64.1	53.5	60.4	56.9	54.9	57.08	28.265	. .	29.078
	49	Uranus		5	III-VII.	105 14 52.9	66.1	56.8	63.1	59.1	57.6	59.27	24.680	. .	25.508
	50	22 Camelopardis		3	1-5.	59 29 53.3	65.0	58.8	64.0	61.0	60.1	60.37	24.208	. .	25.039
	51	μ Geminorum, (Ref.)		4	I-IV.	253 39 53.0	64.2	57.7	64.1	57.9	58.5	59.23	26.658	. .	27.518
	52	μ Geminorum		4	VI-IX.	106 19 52.0	66.0	56.7	62.1	58.9	55.5	58.53	31.642	. .	32.444
	53	δ Ursæ Minoris, S. P.		5	. .	35 29 53.2	66.0	57.1	65.1	58.4	56.8	59.43	26.472	. .	27.409
	54	γ Geminorum, (Ref.)		4	I-IV.	247 34 53.2	64.0	57.1	65.0	58.9	59.0	59.53	24.744	. .	25.601
	55	γ Geminorum		4	VI-IX.	112 24 53.1	65.3	56.0	61.1	57.6	55.9	58.17	33.534	. .	34.389
	56	51 Cephei		5	1-5.	41 39 53.7	67.1	59.0	65.3	60.0	58.9	60.67	28.816	. .	29.645
	57	α Canis Majoris		5	III-VII.	145 19 54.0	66.0	56.2	61.0	58.9	55.7	58.63	30.286	. .	31.119
	58	Nadir 6h. 45m.		4	. .	269 59 53.2	64.1	53.3	63.0	58.0	56.2	57.97	29.104	. .	. .
24	59	Nadir		5	. .	269 54 51.9	66.5	55.8	63.9	56.1	54.5	58.12†	19.492	. .	. .
	60	Nadir		5	. .	269 59 50.9	65.8	55.5	63.7	55.7	54.3	57.66†	29.082	. .	. .
	61	Nadir		5	. .	270 4 50.9	66.9	55.9	64.9	57.3	55.8	58.61†	38.675	. .	. .
	62	Nadir		6	. .	269 59 51.4	66.2	55.5	63.8	56.8	55.2	58.16‡	29.089	. .	. .
	63	Nadir		6	. .	269 54 51.7	67.1	55.7	64.1	57.2	55.0	58.48‡	19.515	. .	. .
25	64	Sun N. L.		4	I-IV.	147 24 51.0	64.1	54.1	61.8	52.1	50.8	55.65	28.291	+ 0.858	29.188
	65	Sun S. L.		4	VI-IX.	147 59 52.2	66.1	56.9	64.0	55.2	52.1	57.75	33.054	. .	33.859

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	29.782	33.5	30.5	— 1 40.8	+ 1 36.4	59 59 57.1			Ha.	
2	. .	. .	. .	+ 43.8	1 34.2	59 27 18.8	— 20 49 58.8			
3	. .	. .	. .	— 1 48.2	59.9	47 54 12.3			D.	Unsteady.
4	29.764	35.0	31.8	— 2 5.8	59.9	47 53 54.7	9 0 24.1			Cor. for def. ill. = — 0″.4.
5	29.766	31.0	26.1	+ 1 7.2	1 19.8	52 47 29.1	— 13 53 49.9	+ 64.6	Ha.	
6	. .	. .	. .	— 1 52.4	14.2	15 43 24.7	+ 23 10 14.5			
7	. .	. .	. .	+ 16.5	+ 26.5	23 35 45.1	15 17 54.1	49.3		
8	. .	. .	. .	+ 45.2	— 25.4	337 20 22.9	16 14 2.1	43.6		
9	29.750	30.0	25.3	— 50.6	+ 25.4	22 39 36.6	16 14 2.6			
10	. .	.	. .	1 40.5	— 6.3	174 3 17.1	32 56 56.3	32.3		
11	. .	. .	. .	— 2 26.6	+ 7.4	6 57 43.0	45 51 22.2	23.1		
12	. .	. .	. .	+ 2 16.5	— 7.4	353 2 12.9	45 51 26.3			
13	. .	. .	. .	+ 49.2	— 11.2	169 35 41.5	28 29 20.7	22.7		
14	. .	. .	. .	— 55.6	+ 11.2	10 24 17.5	+ 28 29 21.7			
15	29.752	29.0	24.6	— 2 55.1	49.8	39 17 54.4	— 0 24 15.2	25.9		
16	. .	. .	24.3	+ 2 3.5	+ 16.5	15 17 22.2	+ 23 36 17.0			
17										
18	. .	. .	. .	+ 1 20.6	— 1 25.2	305 29 56.8	+ 86 36 17.6	+ 5.8		At 6h. 17m. 49s., 18m. 19s., and 18m. 49s.
19	29.750	30.0	24.0	— 37.2	+ 1 28.3	55 25 52.0	— 16 32 12.8	— 3.5		
20	. .	. .	. .	50.6	2 0.4	63 16 11.6	— 24 22 32.4	7.0		
21	. .	. .	. .	1 46.6	17.6	16 3 35.9	+ 22 50 3.3	13.9		
22	29.744	29.5	24.0	11.9	18.3	16 40 8.1	+ 22 13 31.1	19.6		Very bad night. Observations of little value.
23	. .	. .	. .	1 5.0	1 32.1	59 15 28.6			D.	Through clouds; unsteady. Recorded 30r.
24	29.476	31.5	31.9	3 34.1	1 34.2	59 48 1.4	— 20 38 5.8			Through clouds; unsteady. Mic. F recorded 67.8.
25										
26	30.170	23.5	19.1	1 7.4	2 23.4	66 36 17.9	27 42 38.7	9.0	N.	January 18. Adjusted collimation. Wire was 2s. east of image.
27	. .	. .	. .	1 17.6	2 0.9	62 45 45.4	23 52 6.2	13.0		
28	. .	. .	. .	3 22.2	2 0.7	62 43 40.6	23 50 1.4	13.2		
29	. .	. .	. .	— 1 5.9	2 13.4	65 1 10.6	— 26 7 31.4	15.5		
30	. .	. .	. .	+ 2 16.6	30.2	25 47 47.6	+ 13 5 51.6	19.4		
31	. .	. .	. .	— 1 5.3	2 6.7	63 51 1.3	— 24 57 22.1	20.4		
32	. .	. .	. .	— 1 21.6	2 25.8	66 56 5.1	28 2 25.9	23.8		
33	. .	. .	. .	+ 45.7	2 26.1	66 58 12.7	28 4 33.5	24.9		
34	. .	. .	. .	2 2.0	2 9.4	64 19 12.0	25 25 32.8	30.4		
35	30.170	23.0	18.6	+ 2 51.1	2 9.5	64 20 1.2	25 26 22.0	30.8		
36	. .	. .	. .	— 28.3	2 40.5	68 52 14.5	— 29 58 35.3	— 34.2		
37	. .	. .	18.0	17.1	21.7	29 5 4.9	+ 9 48 34.3			Circle reading recorded 119°, &c. Faint and uncertain.
38	30.310	26.5	28.8	— 1 29.8	1 35.2	59 10 6.9			Ha.	
39	. .	. .	. .	+ 55.7	1 33.1	58 37 31.4	— 20 0 9.9			
40	. .	. .	. .	— 1 13.0	56.5	45 54 46.8				
41	30.248	30.5	32.1	— 1 29.4	56.5	45 54 30.4	— 7 0 59.2			Cor. for def. ill. = — 0″.4.
42	30.298	28.5	26.5	+ 1 29.6	14.5	15 36 49.4	+ 23 16 49.8			
43	. .	. .	. .	— 2 20.7	+ 7.6	6 57 44.8	45 51 24.0	+ 22.6		
44	30.288	28.0	25.1	+ 2 21.8	— 7.6	353 2 13.6	45 51 25.6			
45	. .	. .	. .	+ 53.1	— 11.4	349 35 41.3	28 29 20.5	22.6		
46	. .	. .	. .	— 51.2	+ 11.4	10 24 18.6	28 29 20.6			
47	. .	. .	. .	+ 2 31.9	— 45.1	323 56 45.6	+ 74 56 53.6	12.4		
48	. .	. .	. .	28.9	+ 52.3	40 11 18.2	— 1 17 39.0	+ 24.0		
49	30.288	27.5	25.0	2 20.6	+ 16.8	15 17 36.6	+ 23 36 2.6			
50	. .	. .	. .	2 35.3	— 36.5	329 31 59.1	69 21 40.1	— 1.3		
51	. .	. .	. .	+ 1 17.7	— 18.2	343 40 58.8	22 34 38.0	+ 2.2		
52	30.282	27.5	24.5	— 1 16.5	+ 18.2	16 19 0.2	22 34 39.0			
53	. .	. .	. .	+ 1 21.1	— 1 26.8	305 29 53.7	86 36 14.5	+ 7.2		One reading at wire IV; the other four at intervals of 30s. from 6h. 20m. 34s. till 6h. 22m. 4s.
54	. .	. .	. .	+ 2 17.7	— 25.6	337 36 51.7	16 30 30.9	— 2.7		
55	. .	. .	. .	— 2 15.8	+ 25.6	22 23 7.9	16 30 31.3			
56	. .	. .	. .	+ 11.1	— 1 9.7	311 39 2.0	+ 87 14 37.2	14.3		
57	30.290	27.5	24.2	— 35.0	+ 1 29.6	55 20 53.2	— 16 27 14.0	— 2.6		
58										
59										
60									D.	
61										* Observed for value of 1r. micrometer.
62										† Six readings of each microscope.
63										‡ Three readings of each microscope.
64	29.922	25.0	22.1	+ 25.4	1 28.9	57 26 49.9				
65	. .	. .	. .	— 2 1.8	+ 1 30.9	57 59 26.8	— 18 49 29.1		Ha.	

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrd.
1865.						o ′ ″	″	″	″	″	″	″	r.	r.	r.
Jan. 25	1	Venus, centre		5	III–VII.	133 19 52.2	66.1	56.0	64.1	56.6	56.0	58.50	26.703	+ 0.858	27.562
	2	Mars, centre		4	VI–IX.	105 24 51.9	69.0	58.9	66.7	58.9	56.0	60.23	26.475		27.334
	3	η Ursæ Minoris, S. P.		3	5–1.	24 59 52.5	65.0	59.1	67.0	54.8	52.5	58.48	29.953		30.812
	4	Lacaille 1540		1	IX.	154 49 52.0	66.1	57.9	64.0	55.4	53.0	58.07	28.808		29.661
	5	Lacaille 1590	8.0	1	V.	158 34 52.0	66.4	58.5	66.0	55.7	53.0	58.60	37.881		38.742
	6	Uranus		5	III–VII.	105 19 52.1	68.0	59.4	66.5	57.1	54.9	59.67	33.820		34.675
	7	Anon. 5h. 54m. 5s.	9.0	1	V.	102 34 52.8	68.1	58.5	67.0	57.5	54.1	59.67	42.689		43.547
	8	μ Geminorum		5	I–IX.	106 19 51.9	68.5	58.9	66.1	57.3	54.0	59.45	31.690		32.545
	9	Euterpe	8.5	1	V.	104 44 52.4	68.8	59.6	66 9	57.5	54.7	59.98	34.805		35.663
	10	α Canis Majoris		5	III–VII.	145 24 51.5	65.9	56.2	62.9	56.1	52.9	57.58	30.254		31.114
	11	Nadir		4		269 59 51.9	64.1	56.1	65.0	54.5	52.8	57.40	29.058		
26	12	Venus		5	I–IX.	132 49 52.7	67.8	56.6	65.6	56.1	54.9	58.95	28.232		29.092
	13	Mars S. L.		2	III, VII.	105 24 51.8	68.2	57.6	65.8	58.5	55.0	59.48	30.528		31.340
	14	Mars N. L.		1	V.	" " "	"	"	"	"	"	"	30.860		31.715
	15	Nadir 4h. 30m.		4		269 59 51.8	66.3	56.3	64.8	55.4	54.1	58.12	29.074		
	16	B. A. C. 1482		3	III–VII.	157 14 51.4	66.3	56.5	64.5	55.6	52.3	57.77	35.775		36.638
	17	Lacaille 1675		3	III–VII.	161 19 51.4	66.0	57.1	64.7	55.0	53.0	57.87	33.665		34.529
	18	β Orionis		5	I–IX.	137 14 51.0	66.0	56.1	62.0	55.2	51.5	56.97	30.280		31.142
	19	B. A. C. 1708		3	I–IX.	140 54 50.4	64.6	55.7	61.8	54.3	50.8	56.27	31.726		32.591
	20	Uranus		5	I–IX.	105 19 51.4	67.7	57.5	64.8	56.6	55.5	58.92	33.636		34.493
	21	Lacaille 2151	8.5	3	III–VII.	165 4 51.7	67.8	56.9	65.0	56.1	52.7	58.37	24.118		24.973
	22	Euterpe		1	V.	104 39 50.9	67.4	57.9	65.1	58.1	53.6	58.83	27.469		28.327
	23	α Canis Majoris		3	III–VII.	145 24 50.8	65.8	55.3	61.7	55.7	52.0	56.88	30.181		31.042
	24	Lacaille 2643		2	III, VII.	157 24 52.8	67.2	58.1	66.3	57.1	52.8	59.05	32.466		33.332
	25	B. A. C. 2420		5	I–IX.	159 24 52.4	67.0	58.9	66.4	55.9	52.1	58.78	30.210		31.083
	26	Lacaille 2833, N. *		2	I, IX.	156 44 52.4	67.8	57.5	66.7	56.5	53.2	59.02	37.983		38.867
	27	Lacaille 2833, S. *		1	V.	" " "	"	"	"	"	"	"	35.159		36.017
	28	Nadir 8h.		3		269 59 52.1	66.6	56.9	65.8	56.4	54.1	58.66d	29.113		
	29	Lacaille 3229		3	I–V.	158 40 52.8	68.8	59.2	66.5	55.1	53.3	59.28	34.886		35.772
	30	Angelina		1	VIII.	108 44 51.5	65.6	56.0	63.9	55.2	54.8	57.83	29.267		30.092
	31	Weisse (2) VIII, 708		1	V.	" " "	"	"	"	"	"	"	35.833		36.691
	32	Weisse (2) VIII, 756		1	V.	" " "	"	"	"	"	"	"	35.347		36.205
	33	B. A. C. 2919		1	IV.	" " "	"	"	"	"	"	"	29.331		30.196
	34	B. A. C. 2925		1	VII.	" " "	"	"	"	"	"	"	19.146		19.983
27	35	Sun S. L.		4	VI–IX.	147 29 52.9	67.6	58.3	63.9	56.2	53.1	58.67	34.625		35.459
	36	α Lyræ		5	I–IX.	90 14 51.3	68.0	57.0	64.1	57.0	53.9	58.55	30.900		31.758
28	37	Venus, centre of light.		5	I–IX.	131 49 51.0	64.6	53.3	61.3	55.0	52.3	56.25	31.631		32.490
29	38	Mercury, centre		1	V.	150 24 51.7	63.6	55.9	60.8	56.6	53.0	56.93	27.520	+ 0.871	28.391
30	39	Sun N. L.		4	I–IV.	146 4 52.9	66.1	56.1	60.6	58.8	56.1	58.43	26.755		27.666
	40	Sun S. L.		4	VI–IX.	146 39 51.7	64.1	54.8	58.9	57.9	55.1	57.08	31.438		32.284
	41	Venus, centre		5	III–VII.	130 44 50.9	62.3	51.2	57.0	55.1	54.1	55.10	25.956		26.827
	42	Lacaille 1780	7.0	1	V.	165 39 49.8	61.6	52.2	58.1	53.3	52.0	54.50	32.062		32.933
	43	B. A. C. 1702	7.0	1	V.	140 54 52.9	64.2	56.1	60.4	57.0	55.7	57.72	31.717		32.588
	44	68 Orionis	7.0	1	V.	134 24 54.9	67.5	58.0	62.8	60.5	59.3	60.50	32.464		33.335
	45	Uranus, centre		5	I–IX.	105 19 55.0	68.3	59.8	65.1	61.8	60.7	61.78	33.354		34.214
	46	Anon. 5h. 54m. 5s.	9.0	1	V.	102 24 55.2	69.1	58.1	64.7	61.0	59.8	61.32	23.509		24.389
	47	Weisse (2) V, 1795	6.0	1	V.	" " "	"	"	"	"	"	"	35.162		36.033
	48	Rumker 1700	7.5	1	V.	" " "	"	"	"	"	"	"	35.881		36.752
	49	δ Ursæ Minoris, S. P.		5	5–1.	35 29 55.2	67.0	60.0	65.2	59.9	59.3	61.10	26.686		27.559
	50	α Canis Majoris		5	I–IX.	145 24 55.1	66.7	58.9	62.2	60.0	58.3	60.20	30.244		31.122
	51	16 Lyncis	6.5	1	V.	83 39 54.9	67.1	59.9	65.1	60.7	61.0	61.45	33.150		34.021
	52	44 Geminorum	7.0	1	V.	106 4 55.0	69.0	60.9	65.9	61.7	59.8	62.05	32.406		33.277
	53	α Canis Minoris		5	I–IX.	123 19 54.9	67.9	59.9	63.8	59.9	57.2	60.60	30.930		31.799
	54	Nadir 7h. 40m.		4		269 59 54.6	65.1	57.1	63.3	58.5	58.0	59.43	29.112		
	55	Nadir		4		270 4 55.1	67.0	58.9	65.4	60.1	60.0	61.08	38.749		
	56	Nadir		4		269 54 54.8	66.9	57.9	63.3	59.0	57.1	59.83	19.453		
	57	Nadir		4		269 59 55.0	66.3	57.8	64.5	59.1	58.1	60.13	29.132		
	58	Massalia		1	V.	116 19 54.6	66.0	57.1	61.8	56.8	56.6	58.82	36.211		37.062
	59	α Lyræ		1	IV.	90 14 55.5	72.3	61.6	69.0	61.3	59.9	63.27	30.942		31.819
31	60	Sun S. L.		2	I, II.	146 24 54.7	69.5	59.0	65.2	59.3	58.9	61.10	35.145		36.064
	61	Sun N. L.		1	IX.	145 49 53.1	68.2	57.2	62.9	58.3	57.2	59.48	30.255		31.091
Feb. 1	62	Venus S. L.		3	I–IX.	129 44 52.9	64.7	51.9	58.5	57.3	56.9	57.03	29.822	+ 0.848	30.670
	63	Venus N. C.		2	III, VII.	" " "	"	"	"	"	"	"	30.433		31.291

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	29.910	29.5	23.0	+ 1 16.3	+ 51.4	43 22 6.2	— 4 28 27.0		Ha.	Correction for def. ill. = — 0″.28.
2	29.898	25.0	18.2	+ 1 24.4	+ 14.5	15 26 39.1	+ 23 27 0.1			
3	. .	. .	. .	— 25.4	— 2 12.7	294 57 20.3	+ 76 3 41.1	— 28.8		
4	. .	. .	. .	+ 10.6	+ 2 11.8	64 52 20.4	— 25 58 41.2	+ 53.5		
5	29.896	24.5	17.0	— 4 33.6	2 37.0	68 33 2.0	— 29 39 22.8	51.0		Whole rez. recorded 27.
6	29.890	23.5	16.4	2 26.4	16.9	15 17 50.1	+ 23 35 49.1			
7	. .	. .	. .	7 4.1	13.8	12 28 9.3	26 25 29.9	9.3		
8	. .	. .	. .	1 19.4	18.2	16 18 58.2	22 34 41.0	+ 2.3		
9	. .	. .	. .	2 57.3	16.4	14 42 19.0	+ 24 11 20.2	— 1.4		
10	29.890	22.5	16.1	— 34.9	1 30.2	55 25 52.8	— 16 32 13.6	— 1.6		
11										
12	29.794	23.5	22.9	+ 28.4	50.2	42 51 17.5	— 3 57 38.3		D.	Correction for def. ill. = — 0″.28.
13	. .	. .	. .	— 43.2	14.5	15 24 30.7	+ 23 29 13.8			Recorded 29r. 528.
14	29.848	21.0	18.5	53.8	14.5	15 24 20.1				Recorded 29r. 860.
15										Unsteady.
16	. .	. .	. .	3 27.8	2 26.5	67 13 56.4	— 28 20 17.2	+ 51.1		
17	29.858	21.5	18.2	2 21.8	3 1.5	71 20 37.5	32 26 58.3	46.5		Barometer recorded 29.358.
18	. .	. .	. .	35.7	1 7.0	47 15 28.2	8 21 49.0	35.7		
19	. .	. .	. .	1 21.1	1 16.3	50 54 51.4	— 12 1 12.2	31.3		
20	29.872	21.5	17.4	— 2 20.3	16.9	15 17 55.5	+ 23 35 43.7			
21	. .	. .	. .	+ 2 37.1	3 50.7	75 11 26.1	— 36 17 46.9	+ 17.1		
22	. .	. .	. .	+ 52.4	16.3	14 41 57.5	+ 24 12 31.7			
23	29.874	20.7	16.7	— 32.6	1 30.1	55 25 54.3	— 16 32 15.1	— 1.3		
24	. .	. .	16.4	1 44.3	2 28.6	67 25 43.3	28 32 4.1	11.0		
25	. .	. .	. .	33.9	2 44.6	69 27 9.4	30 33 30.2	15.2		Close double.
26	. .	. .	. .	4 37.6	2 23.8	66 42 45.2	27 49 6.0	20.6		
27	. .	. .	. .	3 8.4	2 23.9	66 44 14.5	27 50 35.3	20.6		
28										Wind; unsteady. Image bad.
29	. .	. .	. .	3 0.7	2 38.6	68 40 37.1	— 29 46 57.9	39.6		
30	. .	. .	.	2.9	21.2	18 45 16.1	+ 20 8 23.1			Very faint and uncertain.
31	. .	. .	. .	3 29.5	21.2	18 41 49.5	20 11 49.7	46.2		
32	. .	. .	. .	3 14.3	21.2	18 42 4.7	20 11 34.5	46.8		
33	. .	. .	. .	— 6.1	21.2	18 45 12.9	20 8 26.3	47.2		
34	29.881	20.0	14.5	+ 5 13.6	+ 21.3	18 50 32.7	+ 20 3 6.5	— 47.3		
35	29.838	20.5	19.2	— 2 50.9	— 14 47.3	57 12 20.4	— 18 18 41.2		Ha.	Through clouds.
36	29.940	18.0	12.0	54.4	+ 0.3	0 14 4.4	+ 38 39 34.8	+ 16.9	D.	
37	29.918	23.2	19.0	— 1 18.0	48.9	41 49 27.1	— 2 55 47.9			— 0″.31 added to z. d. for def. ill.
38	30.526	28.5	28.7	+ 50.4	1 41.5	60 27 28.8	21 33 49.6		Ha.	+ 0″.14 added for defective illumination.
39	30.502	32.0	31.9	+ 1 13.0	1 24.2	56 7 35.6	17 30 14.4			
40	. .	. .	. .	— 1 11.5	1 26.0	56 40 11.5				
41	30.492	37.5	33.6	+ 1 39.3	46.2	40 47 20.6	1 53 41.4			Correction for def. ill. = — 0″.31.
42	30.504	32.0	26.9	— 1 31.8	3 58.9	75 42 21.6	36 48 42.4	41.0		
43	. .	. .	. .	1 21.0	1 16.4	50 54 53.1	12 1 13.9	31.7		
44	. .	. .	. .	1 44.4	1 0.9	44 24 17.0	— 5 30 37.8	27.0		
45	30.500	31.5	25.8	— 2 11.9	16.9	15 18 6.6	+ 23 35 32.6			
46	. .	. .	. .	+ 2 55.9	13.8	12 28 11.0	26 25 28.2	9.1		
47	. .	. .	. .	— 3 8.9	13.7	12 22 6.1	26 31 33.1	8.7		
48	. .	. .	. .	— 3 31.4	+ 13.7	12 21 43.6	26 31 55.6	7.5		
49	30.496	31.0	25.4	+ 1 16.4	— 1 27.1	305 29 50.4	+ 86 36 11.2	+ 10.0		
50	30.492	30.5	24.5	— 35.1	+ 1 30.2	55 25 55.3	— 16 32 16.1	— 0.8		
51	. .	. .	. .	2 5.9	— 7.0	353 37 48.5	+ 45 15 50.7	14.7		
52	30.492	30.5	24.4	1 42.6	+ 18.0	16 3 37.4	22 50 1.8	14.2		
53	30.500	29.5	24.1	56.3	41.1	33 19 45.4	5 33 53.8	— 25.1		
54										} Observed for value of 1r. micrometer.
55										
56										
57										
58	30.488	29.5	21.9	3 41.7	31.1	26 16 48.2	12 36 51.0			
59	30.444	26.7	28.3	57.0	0.2	0 14 6.5	+ 38 39 32.7	+ 17.8	D.	
60	. .	. .	. .	3 9.9	1 23.7	56 23 14.7	— 17 13 21.7			Cloudy; limb very ill defined.
61	30.400	32.0	37.6	34.2	1 21.9	55 50 47.1				Cloudy; limb ill defined.
62	. .	. .	. .	21.0	43.2	39 45 19.2	— 0 51 30.1			C. R. recorded 129° 39′.
63	30.238	40.2	41.7	— 40.1	+ 43.2	39 45 0.1				Cor. for def. ill. = — 0″.68.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correct
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Feb. 1	1	Uranus, (centre)	- -	5	I–IX.	105 19 55.1	67.1	59.1	64.0	61.8	61.3	61.40	33.173	+ 0.848	34.010
	2	α Orionis	- -	5	I–IX.	121 29 55.0	66.0	56.6	61.0	59.0	57.3	59.15	28.267	. .	29.112
	3	χ^3 Orionis	- -	1	V.	109 14 55.0	66.9	57.0	61.0	59.7	58.6	59.70	34.822	. .	35.671
	4	Lacaille 2159	7.0	1	V.	155 34 55.2	65.4	58.2	61.5	59.3	58.1	59.62	34.051	. .	34.899
	5	Anon. 6h. 6m. 24s.	8.5	1	V.	" " "	"	"	"	"	"	"	31.257	. .	32.105
	6	B. A. C. 2127	7.0	1	V.	156 34 54.9	65.4	57.1	62.1	58.9	57.7	59.35	34.366	. .	35.214
	7	α Canis Majoris	- -	5	I–IX.	145 24 54.8	65.0	57.0	60.0	59.1	58.0	58.98	30.153	. .	31.009
	8	α Canis Minoris	- -	3	I–IX.	123 19 54.8	66.0	58.8	62.0	58.0	58.1	59.62	30.866	. .	31.711
	9	B. A. C. 2544	7.0	1	VI.	106 9 54.9	67.6	59.0	63.3	61.0	59.8	60.93	27.930	. .	28.767
	10	Lacaille 3012	7.0	1	V.	153 4 55.1	64.9	58.6	62.5	58.8	58.4	59.72	32.858	. .	33.706
	11	Lacaille 3072	7.0	1	V.	158 49 55.5	67.0	59.9	64.9	59.0	58.1	60.73	35.119	. .	35.967
	12	B. A. C. 2655	6.0	1	V.	" " "	"	"	"	"	"	"	29.718	. .	30.566
	13	12 Cancri	6.5	1	V.	114 49 54.9	67.5	59.1	62.2	59.8	59.3	60.47	26.265	. .	27.113
	14	Lacaille 3241	7.0	1	V.	154 44 55.0	66.1	59.0	61.9	58.7	58.3	59.83	29.462	. .	30.310
	15	Lacaille 3249	- -	1	VI.	" " "	"	"	"	"	"	"	24.998	. .	25.839
	16	Nadir 8h. 55m.	- -	4		269 59 55.3	64.7	57.7	62.5	58.8	58.9	59.65	29.139	. .	. .
	17	Mercury	- -	3	VI, VIII, IX.	150 34 55.0	67.7	60.2	64.8	59.4	58.5	60.93	35.374	. .	36.213
2	18	Sun S. L.	- -	2	I, III.	145 49 55.8	68.6	58.9	69.0	59.7	60.8	62.13	33.915	. .	34.811
	19	Sun N. L.	- -	2	VII, IX.	145 14 57.4	69.1	58.7	64.7	58.7	61.4	61.67	29.389	. .	30.295
	20	Venus S. L.	- -	3	I–IX.	129 14 56.0	68.6	57.2	63.0	60.0	60.8	60.93	31.986	. .	32.834
	21	Venus N. C.	- -	2	III, VII.	" " "	"	"	"	"	"	"	32.672	. .	33.520
	22	Mars N. L.	- -	3	I–IX.	105 4 55.7	70.6	61.1	67.3	61.7	62.0	63.07	25.832	. .	26.666
	23	Mars S. L.	- -	2	III, VII.	" " "	"	"	"	"	"	"	25.418	. .	26.269
	24	O. Arg. S. 3108	- -	1	IX.	152 14 55.8	68.4	60.3	65.6	59.6	59.3	61.50	26.804	. .	27.644
	25	α Leporis	- -	5	I–IX.	146 49 57.8	70.8	60.9	67.5	62.1	61.7	63.47	33.726	. .	34.542
	26	Uranus	- -	5	I–IX.	105 19 57.0	72.2	63.0	69.6	63.4	63.1	64.72	33.153	. .	33.990
	27	Euterpe	- -	1	V.	104 34 57.1	72.9	63.8	70.0	63.4	62.1	64.88	30.645	. .	31.493
	28	Nadir 6h. 45m.	- -	4		269 59 57.6	68.9	60.3	68.0	60.0	61.1	62.65	29.246	. .	. .
	29	O. Arg. S. 6022	- -	3	III–VII.	157 4 55.0	69.1	61.0	66.6	60.2	58.0	61.65	30.392	. .	31.245
	30	B. A. C. 2383	- -	5	I–IX.	101 59 58.0	72.6	62.8	69.7	62.9	62.2	64.70	33.478	. .	34.313
	31	O. Arg. S. 6728	- -	1	V.	153 29 57.0	70.7	62.0	58.0	60.4	60.2	61.38	22.430	. .	23.278
	32	ϕ Geminorum	- -	3	III–VII.	101 44 57.7	72.4	62.5	69.4	58.8	61.3	63.68	25.702	. .	26.545
	33	O. Arg. N. 8531	- -	3	IV–VI.	70 44 57.2	71.3	63.7	70.1	63.8	64.3	65.07	29.190	. .	30.033
	34	Angelina	- -	1	V.	108 29 56.7	72.2	62.2	68.6	60.9	61.0	63.60	29.990	. .	30.838
	35	Anon. 8h. 32m. 52s.	- -	1	IX.	122 49 56.7	71.3	61.1	68.5	58.8	59.9	62.72	27.164	. .	28.012
	36	B. A. C. 3005	- -	5	I–IX.	157 49 56.2	70.7	61.2	68.4	59.4	58.3	62.37	31.005	. .	31.867
	37	Nadir 9h. 20m.	- -	6		269 59 56.8	69.3	60.4	69.3	59.0	60.3	62.52	29.233	. .	. .
	38	Massalia	- -	3	III–VII.	115 59 53.4	68.0	58.5	64.1	57.0	55.9	59.48	25.384	. .	26.234
4	39	Venus S. L.	- -	3	I–IX.	128 9 55.3	65.8	55.2	60.5	59.5	58.7	59.17	26.406	. .	27.254
	40	Venus N. C.	- -	2	III, VII.	" " "	"	"	"	"	"	"	27.065	. .	27.913
	41	B. Z. 398, 17	- -	3	IV–VI.	99 54 54.9	65.2	55.1	59.5	58.9	59.7	58.88	28.865	. .	29.711
	42	Mars S. L.	- -	3	I–IX.	104 59 55.0	68.1	59.0	62.7	62.2	62.0	61.50	26.003	. .	26.837
	43	Mars N. L.	- -	2	III, VII.	" " "	"	"	"	"	"	"	26.380	. .	27.222
	44	Weisse IV, 620	- -	5	I–IX.	103 24 55.6	66.3	58.7	62.0	61.2	61.4	60.87	26.477	. .	27.313
	45	Weisse IV, 926	- -	2	V, VIII.	118 4 55.5	65.1	54.9	60.1	58.7	60.1	59.07	32.673	. .	33.507
	46	Nadir 5h. 5m.	- -	3		269 59 55.7	65.3	56.0	61.9	59.3	60.9	59.85	29.144	. .	. .
	47	Uranus	- -	5	I–IX.	105 19 56.2	69.2	60.4	64.8	62.7	63.8	62.85	32.903	. .	33.740
	48	Anon. 5h. 55m. 0s.	9.0	2	I, III.	102 29 55.1	68.0	58.4	64.0	60.9	62.1	61.42	31.963	. .	32.817
	49	Weisse (2) V, 1795	- -	3	III–VII.	" " "	"	"	"	"	"	"	44.716	. .	45.559
	50	Anon. 7h. 10m. 41s.	- -	3	III–VII.	156 59 55.7	68.3	58.2	63.2	60.0	60.0	60.90	41.672	. .	42.525
	51	Lacaille 2824	- -	5	I–IX.	166 19 56.6	69.3	60.4	66.6	60.6	62.9	62.73	25.632	. .	26.499
	52	Lacaille 2923	- -	1	V.	154 54 56.0	67.9	59.0	63.7	60.1	60.2	61.15	26.600	. .	27.448
	53	ε Draconis, S. P.	- -	5	VII–III.	18 49 57.0	67.2	61.6	66.1	61.7	60.4	62.33	25.404	. .	26.273
	54	Angelina	- -	1	IX.	108 24 55.6	69.5	59.2	64.0	61.1	62.3	61.95	27.287	. .	28.083
	55	α Cancri	- -	5	I–IX.	116 29 54.9	66.5	57.0	62.4	58.7	59.8	59.88	27.801	. .	28.643
	56	Nadir 9h. 15m.	- -	4		269 59 54.6	64.5	56.0	62.1	58.2	59.8	59.19d	29.122	. .	. .
5	57	Mercury, centre	- -	1	V.	150 24 54.9	68.3	62.1	68.1	57.7	54.5	60.93	29.492	+ 0.871	30.363
6	58	Sun N. L.	- -	4	I–IV.	143 59 54.5	69.0	59.6	66.0	58.0	56.1	60.53	24.069	. .	24.980
	59	Sun S. L.	- -	4	VI–IX.	144 34 55.9	69.3	60.0	67.0	59.4	56.3	61.32	28.911	. .	29.755
	60	Venus S. L.	- -	2	II, VIII.	127 9 55.4	68.0	59.1	66.0	58.5	58.0	60.83	30.335	. .	31.205
	61	Venus N. C.	- -	2	IV, VI.	" " "	"	"	"	"	"	"	30.962	. .	31.833
	62	Uranus, centre	- -	5	I–IX.	105 19 55.7	71.0	61.0	69.5	61.0	60.0	63.03	32.788	. .	33.648
	63	δ Ursæ Minoris, S. P.	- -	5	5–1.	35 29 54.6	67.3	60.0	67.9	57.8	57.5	60.85	26.781	. .	27.654
	64	Moon N. L.	- -	5	I–IX.	110 14 54.9	69.1	60.0	66.1	58.7	56.9	60.95	30.898	. .	31.760
	65	α Canis Majoris	- -	5	III–VII.	145 24 54.1	67.5	58.8	64.9	58.0	56.0	59.88	30.200	. .	31.073

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.264	37.5	34.9	— 2 5.5	+ 16.5	15 18 12.4	+ 23 35 26.8		Ha.	
2	. .	. .	. .	+ 27.8	37.2	31 31 4.1	7 22 35.1	+ 16.2		
3	. .	. .	. .	— 2 57.5	21.2	19 12 23.4	+ 19 41 15.8	10.2		
4	. .	. .	. .	2 33.4	2 12.9	65 34 39.1	— 26 40 59.9	16.3		
5	30.270	37.5	34.0	1 5.9	2 13.1	65 36 6.8	26 42 27.6	15.5		
6	. .	. .	. .	2 43.2	2 19.4	66 34 35.5	27 40 56.3	+ 7.2		
7	30.280	37.0	33.0	31.6	1 28.2	55 25 55.5	— 16 32 16.3	— 0.4		
8	30.300	36.5	33.5	— 53.6	40.0	33 19 46.0	+ 5 33 53.2	24.9		
9	. .	. .	. .	+ 38.6	17.7	16 10 56.9	+ 22 42 42.3	28.2		
10	. .	. .	. .	— 1 56.0	1 59.4	63 5 3.1	— 24 11 23.9	27.9		
11	. .	. .	. .	3 6.8	2 35.9	68 49 29.8	29 55 50.6	30.1		
12	. .	. .	. .	— 17.7	2 36.3	68 52 19.3	— 29 58 40.1	30.6		
13	. .	. .	. .	+ 1 30.4	28.3	24 51 59.1	+ 14 1 40.1	36.4		
14	. .	. .	. .	— 9.7	2 8.7	64 46 58.8	— 25 53 19.6	38.6		
15	30.320	36.0	33.1	+ 2 10.3	2 8.9	64 49 18.7	25 55 39.5	— 39.0		
16										Clouded up.
17	30.460	35.0	35.0	— 3 14.5	1 40.6	60 33 27.0	21 39 47.8		D.	+ 0″.11 added for defective illumination.
18	. .	. .	. .	2 30.6	1 22.2	55 48 53.7	16 38 55.4			Recorded 28r.915.
19	30.440	38.0	35.8	6.5	1 20.5	55 16 15.6				
20	. .	. .	. .	1 28.7	43.2	39 14 15.4				
21	30.400	38.5	37.5	— 1 50.2	43.2	39 13 53.9	— 0 20 25.1			Cor. for def. ill. = — 0″.80.
22	. .	. .	. .	+ 1 44.4	14.3	15 7 1.7				
23	30.400	34.2	30.3	1 57.1	14.3	15 7 14.4	+ 23 46 31.2			
24	. .	. .	. .	+ 1 13.9	1 56.6	62 18 11.0	— 23 24 31.8	+ 58.0		
25	30.410	33.5	24.5	— 2 23.5	1 34.1	56 49 14.0	— 17 55 34.8	+ 31.0		
26	30.406	33.5	27.7	2 4.9	16.8	15 18 16.6	+ 23 35 22.6			
27	30.405	33.0	26.5	46.7	16.1	14 34 34.2	+ 24 19 5.0			Very faint.
28										
29	30.398	32.7	25.4	39.0	2 26.0	67 6 48.6	— 28 13 9.4	— 5.4		
30	. .	. .	. .	— 2 15.0	13.2	11 58 2.9	+ 26 55 36.3	19.2		
31	. .	. .	. .	+ 3 30.4	2 4.6	63 35 36.3	— 24 41 57.1	15.9		
32	. .	. .	23.9	+ 1 48.2	+ 13.0	11 47 4.8	+ 27 6 34.4	32.3		
33	. .	. .	. .	— 1.0	— 21.8	340 44 42.2	58 8 57.0	39.1		
34	. .	. .	. .	— 26.2	+ 20.9	18 29 58.3	20 23 40.9			
35	. .	. .	. .	+ 49.2	40.3	32 51 32.2	+ 6 2 7.0	46.7		Another object of same magnitude and about 2′ 30″ north—probably Nemausa.
36	30.400	30.2	22.8	— 58.5	2 32.3	67 51 36.1	— 28 57 56.9	— 51.0		
37										Image vibratory.
38	30.401	30.0	22.4	+ 1 57.9	30.5	26 2 27.8	+ 12 51 11.4			Whole number rev. not recorded.
39	. .	. .	. .	1 26.0	39.7	38 12 4.8				
40	29.790	44.0	46.8	1 5.3	39.7	38 11 44.1	0 41 45.1			Cor. for def. ill. = — 0″.77.
41	29.918	42.3	40.8	9.1	10.4	9 55 18.2	28 58 21.0	+ 56.1		
42	. .	. .	. .	1 39.0	13.7	15 1 54.2				
43	29.942	41.7	37.7	1 27.0	13.7	15 1 42.2	23 51 51.0			
44	. .	. .	. .	+ 1 24.1	14.3	13 26 39.2	25 27 0.2	40.8		
45	29.930	41.2	37.2	— 1 49.8	31.8	28 3 40.6	10 49 58.6	40.4		
46										½ wt.
47	29.935	40.5	36.3	1 57.1	16.3	15 18 22.0	23 35 17.2			
48	. .	. .	. .	1 28.2	13.3	12 28 56.3	26 29 42.9	8.7		
49	. .	. .	. .	8 7.1	13.1	12 22 7.4	+ 26 31 31.8	+ 8.7		
50	. .	. .	35.5	— 6 32.1	2 19.6	66 55 48.4	— 28 2 9.2	— 12.0		
51	29.936	39.0	37.7	+ 1 49.6	4 1.7	76 25 54.0	37 32 14.8	17.1		Thermometer probably affected by buildings on fire in the vicinity.
52	. .	. .	. .	1 19.9	+ 2 7.0	64 58 28.0	— 26 4 48.8	— 23.5		
53	. .	. .	37.3	1 56.7	— 2 53.0	288 49 6.0	+ 69 55 26.8	+ 43.3		
54	. .	. .	. .	59.9	+ 19.9	18 26 21.7	20 27 17.5			Decidedly the best observation I have made of Angelina.
55	29.921	39.1	37.5	+ 42.5	29.8	26 31 12.1	+ 12 22 27.1	— 52.5		
56										Evening cloudy.
57	30.088	38.0	27.9	— 11.4	1 40.7	60 26 30.2	— 21 32 51.0		Ha	+ 0″.11 added for def. ill.
58	30.072	30.0	29.4	+ 2 37.2	1 16.9	54 3 54.6				
59	. .	. .	. .	+ 7.7	1 18.5	54 36 27.6	— 15 26 31.9			
60	. .	. .	. .	— 37.7	39.8	37 10 2.9				
61	30.044	36.0	31.2	57.4	39.8	37 9 43.2	+ 1 42 46.5			Cor. for def. ill. = — 0″.7.
62	30.100	31.0	25.4	— 1 54.2	+ 16.7	15 18 25.5	23 35 13.7			
63	. .	. .	. .	+ 1 13.5	— 1 26.1	305 29 48.2	86 36 9.0	+ 11.9		
64	30.104	30.5	24.1	— 55.1	— 3 30.3	20 10 35.5	+ 18 43 3.7			
65	. .	. .	. .	— 33.6	+ 1 29.3	55 25 55.5	— 16 32 16.3	+ 0.7		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.			B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correct.
1865.						°	′	″	″	″	″	″	″	″	r.	r.	r.
Feb. 6	1	Lacaille 2558	8.0	1	V.	156	34	56.2	69.9	61.2	69.9	60.0	57.9	62.52	31.125	+ 0.871	31.996
	2	O. Arg. S. 6728	8.0	1	V.	153	29	55.9	69.0	61.3	67.5	58.1	57.1	61.48	22.247	. .	23.11
	3	Anon. 7h. 24m. 27s.	8.0	1	V.	153	44	56.5	69.8	62.0	68.1	59.1	57.0	62.08	31.349	. .	32.22
	4	Lacaille 2870	7.5	1	V.	153	59	56.3	69.8	62.4	68.2	59.1	57.3	62.18	40.962	. .	41.83
	5	*m* Puppis	7.0	1	V.	"	"	"	"	"	"	"	"	"	37.982	. .	38.853
	6	Lacaille 2929	7.5	1	V.	"	"	"	"	"	"	"	"	"	23.725	. .	24.596
	7	*o* Puppis	6.5	1	V.	154	24	56.9	70.4	62.4	69.0	60.7	58.9	63.05	23.392	. .	24.623
	8	Lacaille 3127	7.0	1	V.	154	9	56.0	68.8	61.3	67.5	59.0	56.6	61.53	27.426	. .	28.297
	9	O. Arg. S. 8291	8.5	1	V.	153	44	55.9	69.1	61.0	68.0	59.0	56.9	61.65	36.490	. .	37.361
	10	O. Arg. S. 8345	8.5	1	V.	"	"	"	"	"	"	"	"	"	22.570	. .	23.441
	11	O. Arg. S. 8383	8.5	1	V.	"	"	"	"	"	"	"	"	"	15.900	. .	16.771
	12	Nadir 9h. 15m.	. .	4	. .	269	59	56.9	68.8	60.8	70.0	59.0	59.3	62.47	29.208	. .	. .
	13	Massalia	. .	1	V.	115	44	57.2	71.1	62.6	69.9	61.9	61.3	64.00	34.139	. .	35.010
8	14	Moon N. L.	. .	5	I–IX.	114	29	57.0	71.2	61.9	68.2	61.1	60.9	63.38	27.366	+ 0.849	28.20
	15	Nadir 8h. 35m.	. .	4	. .	269	59	57.0	69.1	60.2	67.8	60.1	60.7	62.48	29.230	. .	. .
13	16	Sun S. L.	. .	5	I–IX.	142	19	61.8	65.9	69.1	79.7	77.8	61.8	69.35	31.961	+ 0.896	32.863
	17	Mars	. .	3	I–IX.	104	35	2.4	18.2	9.3	18.0	7.8	3.4	9.85	26.186	. .	27.06
	18	Weisse IV, 1047	9.0:	1	V.	101	15	1.3	15.3	5.9	15.0	4.5	1.1	7.18	26.715	. .	27.611
	19	Nadir 5h. 20m.	. .	1	. .	270	0	1.8	14.7	7.2	15.2	4.9	1.9	7.62	29.348	. .	. .
	20	Mercury	. .	5	I–IX.	149	15	1.8	17.7	9.5	18.6	5.8	0.2	8.93	31.708	+ 0.832	32.549
14	21	Sun N. L.	. .	2	I–III.	141	25	3.6	19.3	10.0	19.6	8.4	3.2	10.68	27.779	. .	28.659
	22	Sun S. L.	. .	2	VII–IX.	142	0	3.8	20.0	10.8	19.0	9.0	3.3	10.98	32.832	. .	33.699
	23	Venus S. L.	. .	3	I–IX.	123	5	3.3	17.4	7.7	15.3	7.7	6.7	9.68	30.279	. .	31.105
	24	Venus N. C.	. .	2	III, VII.	"	"	"	"	"	"	"	"	"	30.975	. .	31.806
	25	Nadir 3h. 40m.	. .	3	. .	270	0	3.0	13.9	5.8	11.9	7.3	5.3	7.87*d*	29.419	. .	. .
	26	ζ Ursæ Minoris, S. P.	. .	4	. .	27	10	3.0	15.4	7.4	15.5	7.3	5.3	8.98	33.334	. .	34.467
	27	Weisse IV, 65	. .	5	I–IX.	111	25	3.1	17.1	7.0	13.8	9.0	7.0	9.50	30.911	. .	31.735
	28	Weisse IV, 512	. .	5	I–IX.	104	0	3.1	16.1	8.3	14.1	8.9	6.5	9.50	29.850	. .	30.670
	29	Mars S. L.	. .	2	III, VII.	104	35	4.1	17.8	9.6	16.1	9.2	7.7	10.75	31.322	. .	32.147
	30	Mars N. L.	. .	1	V.	"	"	"	"	"	"	"	"	"	31.647	. .	32.479
	31	Weisse IV, 1028	. .	1	V.	120	30	4.4	16.7	7.4	13.0	8.9	5.4	9.30	28.482	. .	29.314
	32	Weisse V, 55	. .	1	V.	124	40	4.6	17.3	8.3	13.9	9.3	7.0	10.07	31.980	. .	32.812
	33	Weisse V, 478	. .	2	III, VII.	107	55	4.9	19.1	9.8	14.3	10.6	8.3	11.17	33.567	. .	34.393
	34	Rumker 1473	. .	1	V.	"	"	"	"	"	"	"	"	"	45.462	. .	46.294
	35	Σ Cat. Gen. 599	. .	1	VIII.	"	"	"	"	"	"	"	"	"	43.730	. .	44.529
	36	Uranus	. .	3	III–VII.	105	20	3.2	18.0	9.0	15.0	10.1	8.1	10.57	32.480	. .	33.308
19	37	Mercury, centre	. .	5	III–VII.	147	29	60.0	57.2	60.7	57.9	57.0	61.1	58.98	35.021	+ 0.665	35.689
20	38	Sun S. L.	. .	4	I–IV.	139	49	59.8	58.9	58.7	58.2	58.0	61.8	59.23	25.179	. .	26.434
	39	Sun N. L.	. .	4	VI–IX.	139	19	60.0	59.1	58.1	59.0	57.4	61.0	59.10	30.410	. .	31.044
	40	Venus S. L.	. .	5	I–IX.	120	4	60.1	58.6	58.0	56.9	59.0	64.0	59.43	25.949	. .	26.610
	41	Venus N. L.	. .	4	II–VIII.	"	"	"	"	"	"	"	"	"	26.670	. .	27.332
	42	Polaris	. .	3	2–4.	40	19	59.9	57.1	60.6	58.4	59.1	65.1	60.03	30.985	. .	31.649
	43	δ Ursæ Minoris, S. P.	. .	2	2, 1.	35	29	59.3	57.8	60.0	60.2	57.9	62.6	59.63	27.042	. .	27.710
	44	α Canis Majoris	. .	5	I–IX.	145	24	59.2	57.0	58.3	55.8	56.9	61.8	58.17	30.222	. .	30.895
	45	59 Aurigæ	7.0	1	V.	89	49	61.1	60.8	62.0	61.0	59.8	65.1	61.63	25.248	. .	25.913
	46	ω^2 Geminorum	. .	1	V.	106	4	61.0	61.6	62.0	61.2	60.5	65.0	61.88	32.662	. .	33.327
	47	δ Canis Majoris	. .	1	V.	155	4	61.0	59.0	61.8	59.0	59.1	63.9	60.63	33.886	. .	34.551
	48	B. A. C. 2420	7.5	1	V.	159	24	61.0	59.0	61.8	61.1	58.0	62.0	60.48	30.221	. .	30.886
	49	Lacaille 2792	6.0	1	V.	153	49	60.9	59.0	61.3	59.1	57.3	62.0	59.93	31.121	. .	31.786
	50	O. Arg. S. 8654	7.5	1	V.	153	59	61.0	59.8	62.1	59.9	58.2	62.0	60.50	18.755	. .	19.420
	51	O. Arg. S. 8660	8.0	1	VII.	"	"	"	"	"	"	"	"	"	27.198	. .	27.864
	52	B. A. C. 3005	6.5	1	V.	157	49	61.9	60.9	62.8	61.6	59.1	63.1	61.57	30.979	. .	31.644
	53	α Cancri	. .	1	V.	116	29	63.0	61.1	63.0	61.0	59.7	64.5	62.05	28.082	. .	28.747
	54	B. A. C. 3096	7.0	1	V.	153	49	62.5	61.2	63.0	61.5	59.2	64.0	61.90	29.072	. .	29.737
	55	Nadir 9h. 10m.	. .	4	. .	269	59	58.8	65.5	59.8	62.5	62.2	61.3	61.68	29.395	. .	. .
	56	Massalia	. .	1	V.	114	39	62.8	62.6	63.8	63.2	60.5	66.1	63.17	39.073	. .	39.738
	57	33 Hydræ	. .	1	V.	134	9	61.9	62.1	62.7	62.0	60.5	65.5	62.46	26.112	. .	26.777
	58	*o* Leonis	. .	1	V.	118	19	62.0	61.0	60.2	60.0	57.8	63.1	60.68	23.510	. .	24.175
	59	Mercury	. .	3	IV–VIII.	147	4	61.9	61.7	61.1	62.1	58.6	63.4	61.47	30.234	. .	30.899
21	60	Sun N. L.	. .	2	I, III.	139	0	3.5	3.4	2.4	4.1	1.1	4.8	3.22	33.865	. .	34.577
	61	Sun S. L.	. .	2	VII, IX.	139	30	5.8	5.6	4.0	6.3	3.0	7.1	5.30	29.373	. .	30.001
	62	Venus S. L.	. .	3	I–IX.	119	40	5.9	3.4	2.4	3.3	2.1	7.5	4.10	33.696	. .	34.356
	63	Venus N. C.	. .	2	III, VII.	"	"	"	"	"	"	"	"	"	34.444	. .	35.107
	64	Nadir 3h. 30m.	. .	3	. .	270	0	6.3	3.3	3.4	4.8	3.7	10.2	5.28	29.528	. .	. .

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 1 2.5	+ 2 21.7	66 36 21.7	— 27 42 42.5	— 4.3	Ha.	
2	30.092	30.0	23.1	+ 3 35.4	2 3.8	63 35 40.6	24 42 1.4	15.0		
3	. .	. .	. .	— 1 9.5	2 4.7	63 45 57.2	24 52 18.0	17.7		
4	. .	. .	. .	6 10.5	2 5.6	63 55 57.2	25 2 18.0	20.5		
5	. .	. .	. .	— 4 37.2	2 5.7	63 57 30.6	25 3 51.4	21.2		
6	. .	. .	. .	+ 2 49.2	2 6.4	64 4 57.7	25 11 18.5	23.4		
7	. .	. .	. .	2 59.6	2 8.7	64 30 11.3	25 36 32.1	25.3		
8	. .	. .	. .	+ 53.3	2 7.1	64 13 1.9	25 19 22.7	32.2		Time of transit recorded 7h. 59m. 11s.
9	. .	. .	. .	— 3 50.5	2 4.3	63 43 15.4	24 49 36.2	36.6		
10	. .	. .	. .	+ 3 25.3	2 5.0	63 50 31.9	24 56 52.7	37.4		
11	30.090	30.0	23.7	+ 6 54.2	2 5.3	63 54 1.1	— 25 0 21.9	— 38.1		
12										
13	30.070	29.5	24.2	— 2 36.9	+ 29.7	25 42 56.8	+ 13 10 42.4			Very faint; observation uncertain.
14	29.666	32.5	25.3	+ 56.1	— 7 9.6	24 23 49.8	+ 14 29 49.4			
15										February 9. Captain Gilliss died.
16	30.483	23.0	15.0	— 1 29.6	— 14 58.3	52 3 41.4	— 13 10 2.2		D.	Unsteady and ill defined. B appears to be 10″
17	30.382	22.0	14.2	+ 1 31.8	+ 14.5	14 36 56.1	+ 24 16 43.1		N.	too small, and E 10″ too large.
18	. .	. .	13.5	+ 1 14.8	12.7	11 16 34.6	+ 27 37 4.6	+ 33.5		C. R. of Mars recorded 105°. &c.
19										
20	30.215	18.3	24.6	— 1 19.8	1 37.7	59 15 26.8	— 20 21 47.6		D.	+ 0″.13 added for defective illumination.
21	. .	. .	. .	+ 42.0	1 10.0	51 27 2.6				
22	30.182	28.0	26.8	— 1 53.6	1 11.4	51 59 28.7	— 12 49 36.5			
23	. .	. .	. .	34.7	33.8	33 5 8.7				
24	30.114	28.5	29.0	56.5	+ 33.8	33 4 46.9	+ 5 48 41.8			Cor. for defective illumination = — 0″.92.
25										
26	30.122	29.2	24.7	2 19.6	— 1 59.9	297 5 49.4	78 12 10.2	— 36.5		At intervals of 30s. from 3h. 52m. 42s. to 3h.
27	. .	. .	. .	54.3	+ 24.2	21 24 39.3	17 28 59.9	+ 52.1		54m. 12s.
28	30.071	29.2	24.2	21.0	15.4	14 0 3.9	24 53 35.3	42.8		
29	. .	. .	. .	1 7.2	14.0	14 34 17.5				
30	. .	. .	. .	— 1 17.6	14.0	14 34 7.1	24 19 26.9			
31	30.057	29.2	23.8	+ 21.5	36.3	30 31 7.1	8 22 32.1	40.0		
32	. .	. .	. .	— 1 28.0	42.6	34 39 24.6	4 14 14.6	34.9		
33	. .	. .	. .	2 17.5	19.9	17 53 13.5	21 0 25.7	24.4		
34	. .	. .	. .	8 30.1	19.8	17 47 0.8	21 6 38.4	20.6		
35	. .	. .	. .	7 34.9	19.8	17 47 56.0	21 5 43.2	20.3		
36	30.045	29.2	24.2	1 43.6	16.7	15 18 43.6	+ 23 34 55.6			February 17. Adjusted micrometer heads to read nearly alike.
37	30.338	36.5	36.6	— 2 58.1	1 29.1	57 28 29.9	— 18 34 50.7		Ha.	Very faint. + 0″.12 added for def. ill.
38	30.334	39.0	37.8	+ 1 50.1	1 5.0	49 52 54.3				
39	. .	. .	. .	— 32.7	1 3.7	49 20 30.1	— 10 43 3.0			
40	30.336	42.0	39.1	+ 1 46.1	29.1	30 7 14.6				
41	. .	. .	. .	+ 1 23.5	+ 29.1	30 6 52.0	+ 8 47 36.4			
42	. .	. .	. .	— 51.6	— 1 10.9	310 17 57.8	88 35 41.4	77.1		
43	30.344	36.0	30.3	+ 1 11.7	— 1 25.9	305 29 45.4	+ 86 36 6.2	15.0		
44	. .	. .	. .	— 28.0	+ 1 29.0	55 25 59.1	— 16 32 19.9	+ 2.5		
45	. .	. .	. .	+ 2 8.0	— 0.1	359 52 9.5	+ 39 1 29.7	— 14.0		
46	30.358	35.5	29.1	— 1 44.2	+ 17.7	16 3 35.3	+ 22 50 3.9	14.5		
47	. .	. .	. .	2 22.5	2 11.7	65 4 49.8	— 26 11 10.6	5.7		
48	. .	. .	. .	27.7	2 42.7	69 27 15.4	30 33 36.2	9.6		Close, double; same declination.
49	30.362	35.0	28.8	— 55.9	2 4.8	63 51 8.8	24 57 29.6	13.1		
50	30.374	34.5	27.3	+ 5 31.2	2 6.7	64 7 38.4	25 13 59.2	39.5		
51	. .	. .	. .	+ 1 7.2	2 6.3	64 3 14.0	25 9 34.8	39.6		Several more stars in the field.
52	. .	. .	. .	— 51.5	2 30.6	67 51 40.6	— 28 58 1.4	46.2		
53	. .	. .	. .	+ 39.2	30.8	26 31 12.0	+ 12 22 27.2	52.0		
54	30.372	34.0	27.0	+ 8.2	2 5.4	63 52 15.5	— 24 58 36.3	51.0		
55										
56	. .	. .	. .	— 5 4.9	28.3	24 35 26.5	+ 14 18 12.7			
57	. .	. .	. .	+ 1 40.9	1 0.2	44 12 43.5	— 5 19 4.3	61.3		
58	30.384	33.5	26.4	+ 3 2.4	33.5	28 23 36.5	+ 10 30 2.7	— 63.7		
59	30.566	33.0	34.1	— 27.8	1 29.1	57 6 2.7	— 18 12 23.5		D.	Dim. + 0″.12 added for defective illumination.
60	. .	. .	. .	2 23.3	1 3.6	48 58 43.5				
61	30.561	35.0	36.1	0.0	1 4.9	49 31 10.2	— 10 21 17.6			
62	. .	. .	. .	2 16.4	28.7	29 38 16.4				
63	30.520	38.0	39.7	— 2 39.9	+ 28.7	29 37 52.9	+ 9 15 35.1			Cor. for def. ill. = — 1″.1.
64										Image appears only at intervals.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrd
						° ′ ″	″	″	″	″	″	″	r.	r.	r.
1865.															
Feb. 21	1	Anon. 5h. 12m. 29s.	8.8	3	III–VII.	127 55 6.1	4.1	3.7	3.2	3.5	8.0	4.77	30.709	+ 0.665	31.3
	2	Weisse V, 478		3	V–IX.	107 55 6.3	6.1	6.1	4.1	4.1	10.2	6.15	33.608		34.2
	3	O. Arg. N. 6031		1	VI.	60 5 6.7	4.0	7.2	6.3	5.4	12.9	7.06	27.059		27.7
	4	Lacaille 2208		5	I–IX.	152 55 4.6	2.6	5.1	4.4	2.0	7.8	4.42	32.210		32.6
	5	Lacaille 22c8		5	I–IX.	156 55 4.5	2.2	3.1	3.8	2.1	6.1	3.63	28.773		29.4
	6	Weisse VI, 990		5	I–IX.	142 55 4.2	4.4	5.1	3.8	2.3	7.0	4.47	30.943		31.6
	7	α Canis Majoris		5	I–IX.	145 25 4.6	3.7	3.0	2.4	2.9	7.6	4.03	30.420		31.0
	8	σ^1 Canis Majoris	6.0	3	I–V.	152 55 4.5	2.9	5.1	5.3	2.2	8.0	4.67	33.212		33.9
	9	O. Arg. 8. 5864	8.5	1	IX.	" " "	"	"	"	"	"	"	27.849		28.5
	10	Anon. 7h. 1m. 40s.		3	III–VII.	106 20 4.5	6.6	5.9	6.3	5.2	9.5	6.33	31.734		32.3
	11	Σ Cat. Gen. 825, S. *		3	I–IX.	" " "	"	"	"	"	"	"	22.783		23.4
	12	Σ Cat. Gen. 825, N. *		2	III, VII.	" " "	"	"	"	"	"	"	23.006		23.6
	13	τ Draconis, S. P.		5	VII–III.	22 0 4.6	3.7	6.0	6.6	3.6	8.1	5.43	25.044		25.7
	14	B. A. C. 2606		5	III–VII.	81 10 4.6	5.2	5.7	6.0	3.1	10.1	5.78	29.515		30.1
	15	O. Arg. N. 8459		1	IX.	81 55 4.6	5.0	5.4	6.1	4.2	9.8	5.85	29.747		30.3
	16	λ Ursæ Minoris, S. P.		5		37 50 4.7	4.5	6.8	7.5	5.0	9.5	6.33	30.983		31.6
	17	Lacaille 3257		1	V.	163 55 1.8	1.1	3.1	2.8	0.0	5.4	2.37	34.446		35.1
	18	35 Cancri		1	III.	108 50 4.6	5.2	3.1	5.3	2.2	8.2	4.77	28.616		29.2
	19	Anon. 8h. 29m. 44s		1	III.	" " "	"	"	"	"	"	"	26.094		26.7
	20	B. A. C. 2907		1	I.	" " "	"	"	"	"	"	"	30.072		30.7
	21	B. A. C. 2914		1	IV.	" " "	"	"	"	"	"	"	24.313		24.9
	22	Weisse (2) VIII, 793		1	IX.	" " "	"	"	"	"	"	"	24.487		25.1
	23	Anon. 8h. 34m. 56s.		1	VI.	" " "	"	"	"	"	"	"	25.482		26.1
	24	Nadir 8h. 50m.		5		270 0 3.5	2.3	3.0	4.0	0.9	7.0	3.45	29.443		
	25	Lacaille 3750		3	IV–VI.	161 40 2.9	2.3	3.8	4.2	0.0	5.0	3.03	35.852		36.5
	26	Massalia		3	III–VII.	114 30 3.0	4.5	4.4	4.8	2.5	8.3	4.58	28.369		29.0
22	27	Sun N. L.		4	I–IV.	138 35 4.3	2.2	2.2	3.2	1.4	5.6	3.15	27.745		28.4
	28	Sun S. L.		4	VI–IX.	139 5 5.8	4.4	4.1	5.2	3.8	7.7	5.17	23.430		24.0
23	29	Mercury		5	I–IX.	145 50 7.3	6.3	6.0	4.0	6.1	11.6	6.88	30.562		31.2
24	30	Sun S. L.		2	I, III.	138 25 4.2	3.8	2.1	2.0	3.0	6.7	3.63	31.166		31.8
	31	Sun N. L.		2	VII, IX.	137 55 4.2	3.9	2.1	1.1	2.5	7.5	3.55	35.833		36.4
	32	Venus S. L.		3	I–IX.	118 10 4.6	2.7	0.6	0.3	1.1	8.0	2.88	25.103		25.7
	33	Venus N. C.		2	III, VII.	" " "	"	"	"	"	"	"	25.845		26.5
	34	Nadir 1h. 45m.		5		270 0 4.2	0.6	1.0	0.2	2.1	8.9	2.83	29.420		
	35	α Orionis		5	I–IX.	121 30 4.6	3.2	2.8	2.6	1.9	7.2	3.72	28.542		29.2
	36	η Geminorum		5	I–IX.	106 20 5.0	5.8	4.6	4.9	4.8	9.3	5.73	27.748		28.4
	37	μ Geminorum		5	I–IX.	" " "	"	"	"	"	"	"	31.988		32.6
	38	δ Ursæ Minoris, S. P.		5		35 30 5.6	4.1	5.8	6.2	3.4	9.9	5.83	27.170		27.9
	39	α Canis Majoris		5	I–IX.	115 25 3.9	1.6	1.5	0.5	0.7	7.0	2.53	30.317		30.9
26	40	Mercury, centre		1	V.	144 24 63.8	61.1	60.5	58.9	61.4	67.0	62.12	34.408		35.0
27	41	Sun N. L.		4	I–IV.	136 44 63.9	61.1	61.2	59.9	62.0	68.8	62.82	30.527		31.2
	42	Sun S. L.		4	VI–IX.	137 14 64.9	62.5	61.5	59.2	61.7	67.5	62.88	26.003		26.6
	43	Venus S. L.		5	I–IX.	116 49 65.0	61.3	61.5	59.2	61.3	70.2	63.08	31.400		32.0
	44	Venus N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	32.151		32.8
	45	Uranus		5	I–IX.	105 18 21.6	17.5	19.1	18.9	19.9	26.4	20.47	28.681		29.3
						21.2	17.1	19.1	17.4	19.2	27.6				
	46	μ Geminorum		1	V.	106 19 60.0	57.1	58.0	56.0	58.0	64.0	58.85	31.792		32.4
	47	Lacaille 2323		1	V.	156 9 59.9	56.0	57.5	55.4	55.5	62.2	57.75	28.648		29.3
	48	α Canis Majoris		5	I–IX.	145 24 62.7	57.8	59.1	56.0	58.9	65.5	60.00	30.183		30.8
	49	Nadir 7h.		4		269 59 63.0	56.9	59.1	57.3	58.1	67.0	60.23	29.334		
28	50	Lacaille 2480	8.0	3	IV–VI.	162 39 50.9	49.4	49.8	49.7	52.8	52.9	50.92	39.114		39.7
	51	Anon. 7h. 1m. 40s.		5	I–IX.	106 20 5.2	5.7	5.0	6.0	3.1	9.7	5.78	31.716		32.3
	52	Σ Cat. Gen. 825, N. *		3	I–IX.	" " "	"	"	"	"	"	"	22.982		23.6
	53	Σ Cat. Gen. 825, S. *		2	III, VII.	" " "	"	"	"	"	"	"	22.723		23.3
	54	O. Arg. N. 7755		5	IV–VI.	49 55 4.9	5.1	6.2	8.0	4.0	11.9	6.68	25.509		26.1
	55	Weisse VII, 915	8.5	5	I–IX.	108 0 4.8	5.1	4.7	4.1	1.2	9.0	4.82	34.506		35.1
	56	Weisse VII, 1624	8.2	3	IV–VI.	117 15 4.7	3.2	. .	3.4	0.7	7.4	3.94	39.175		39.8
	57	Carrington 1186	10.0	1	VII.	47 55 4.1	1.8	4.7	6.8	2.2	9.4	4.83	24.933		25.4
	58	Carrington 1187	10.0	1	IX.	" " "	"	"	"	"	"	"	21.578		22.2
	59	Anon. 8h. 32m. 35s.	8.0	1	VI.	108 54 62.7	62.0	61.3	62.7	58.8	66.9	62.40	33.002		33.6
	60	Anon. 8h. 34m. 57s.	10.0	1	IV.	" " "	"	"	"	"	"	"	34.926		35.6
	61	B. A. C. 3039, N. *		2	V, IX.	136 25 4.6	4.9	5.8	5.0	1.8	8.6	5.12	38.665		39.3
	62	B. A. C. 3039, S. *		2	III, VII.	" " "	"	"	"	"	"	"	38.384		39.0
	63	Lacaille 3750		5	I–IX.	161 40 4.6	2.3	4.8	5.4	4.7	5.0	4.47	35.715		36.3

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. . .	. .	. .	— 43.0	+ 47.8	37 55 9.5	+ 0 58 29.7	+ 33.3	D.	
2	30.528	37.0	32.4	— 2 13.1	+ 19.8	17 53 12.8	21 0 26.4	24.5		
3	. . .	. .	. .	+ 1 11.9	— 35.4	330 5 43.5	+ 68 47 55.7	5.4		
4	30.528	36.0	30.0	— 1 30.3	+ 2 0.2	62 55 34.3	— 24 1 55.1	15.9		Whole number rev. noted with special care.
5	. .	. .	. .	+ 17.2	2 17.6	65 57 38.4	27 3 59.2	11.8		
6	. .	. .	. .	— 50.5	1 21.7	52 55 35.6	14 1 56.4	7.2		
7	. .	. .	. .	34.2	1 29.5	55 25 59.3	16 32 20.1	2.6		
8	. .	. .	. .	— 2 2.1	2 0.4	62 55 2.9	24 1 23.7	0.2		
9	30.524	35.2	29.1	+ 46.8	2 0.7	62 57 52.1	— 24 4 12.9	+ 0.3		
10	. .	. .	. .	— 1 15.0	18.1	16 19 9.4	+ 22 34 29.8	— 16.2		
11	. .	. .	. .	+ 3 25.5	18.2	16 23 50.0	22 29 49.2	17.0		} Double.
12	. .	. .	. .	3 18.3	+ 18.2	16 23 42.8	22 29 56.4	— 17.0		
13	. .	. .	. .	+ 2 13.6	— 2 32.3	291 59 46.7	73 6 7.6	+ 38.4		
14	. .	. .	. .	— 5.4	9.6	351 9 50.7	47 43 48.5	— 37.7		
15	. .	. .	27.8	10.4	8.8	351 54 46.4	46 58 52.6	— 39.3		
16	. .	. .	. .	53.1	— 1 19.9	307 47 53.3	+ 88 54 14.1	+ 49.0		At intervals of 30s. from 8h. 2m. 50s. to 8h. 4m. 50s.
17	30.516	33.0	27.3	— 2 40.0	+ 3 32.1	73 55 54.4	— 35 2 15.2	— 33.8		
18	. .	. .	. .	+ 22.2	21.2	18 50 48.1	+ 20 2 51.1	45.8		
19	. .	. .	. .	+ 1 41.1	21.2	18 52 7.0	20 1 32.2	46.5		
20	. .	. .	. .	— 23.4	21.2	18 50 2.5	20 3 36.7	47.0		
21	. .	. .	. .	+ 2 37.0	21.3	18 53 3.0	20 0 36.2	47.2		
22	. .	. .	. .	2 33.3	21.3	18 52 59.3	20 0 39.9	47.3		
23	. .	. .	. .	+ 2 1.0	21.2	18 52 26.9	+ 20 1 12.3	48.2		
24										
25	. .	. .	. .	— 3 24.1	3 5.4	71 39 44.3	— 32 46 5.1	— 55.0		
26	30.510	32.7	26.3	+ 30.3	28.4	24 31 3.2	+ 14 22 36.0			
27	30.424	36.0	38.4	48.5	1 2.1	48 36 53.7 }				
28	. .	. .	. .	+ 3 5.9	1 3.4	49 9 14.4 }	— 9 59 24.9		N.	
29	30.289	40.9	39.5	— 38.6	1 23.0	55 50 51.2	16 57 12.0		D.	Unsteady; cor. for def. ill. = + 0″.11.
30	. .	. .	. .	58.8	1 0.9	48 25 5.7 }				Whole rev. recorded, 30.
31	30.280	41.0	41.5	— 3 22.3	59.7	47 52 40.9 }	— 9 15 14.1			
32	. .	. .	. .	+ 2 12.7	26.3	28 12 41.8 }				
33	30.260	43.9	43.3	1 49.4	26.3	28 12 18.5 }	+ 10 41 9.6			Cor. for def. ill. = — 1″.1.
34										
35	30.298	39.0	36.5	24.9	37.1	31 31 5.7	7 22 33.5	+ 17.3		Very bad night; thick haze.
36	. .	. .	. .	+ 50.0	17.8	16 21 13.5	22 32 25.7	4.9		
37	. .	. .	. .	— 1 22.7	+ 17.7	16 19 0.7	22 34 38.5	1.7		
38	. .	. .	. .	+ 1 3.3	— 1 24.8	305 29 44.3	+ 86 36 5.1	15.8		At intervals of 30s. from 6h. 20m. 31s. to 6h. 22m. 31s.
39	30.304	39.0	35.5	— 31.0	+ 1 27.8	55 25 59.3	— 16 32 20.1	2.8		
40	30.320	45.5	46.0	2 38.8	1 17.5	54 23 40.8	15 30 1.6		Ha.	+ 0″.09 added for defective illumination.
41	30.320	46.5	47.5	— 38.6	56.6	46 45 20.8 }				
42	. .	. .	. .	+ 1 45.4	57.7	47 17 45.9 }	— 8 7 54.1			
43	30.294	48.5	49.3	— 1 4.5	24.2	26 49 22.7 }				
44	. .	. .	. .	— 1 28.0	24.2	26 48 59.2 }	+ 12 4 28.8			Cor. for def. ill. = — 1″.04.
45	30.280	46.5	43.1	+ 20.8	16.2	15 18 57.4	23 34 41.8		N.	Circle supposed to have been read on 20′ division. Circle supposed to have been read on 15′ division.
46	30.308	46.0	42.2	— 1 16.9	17.5	16 18 59.4	+ 22 34 39.8	1.7	Ha.	
47	. .	. .	. .	+ 21.5	2 14.7	66 12 33.9	— 27 18 54.7	10.7		
48	30.300	45.5	41.9	— 26.8	1 26.6	55 25 59.8	16 32 20.6	3.3		
49										
50	30.228	40.3	37.3	5 6.2	3 10.0	72 37 54.7	— 33 44 15.5	+ 4.1	D.	
51	. .	. .	. .	— 1 14.2	17.7	16 19 9.2	+ 22 34 30.0	— 16.5		Whole rev. not recorded.
52	. .	. .	. .	+ 3 19.3	17.7	16 23 42.7	22 29 56.5	17.3		} Double.
53	. .	. .	. .	3 27.2	+ 17.8	16 23 50.7	22 29 48.5	17.3		
54	. .	. .	. .	+ 2 0.1	— 50.7	319 56 16.0	78 57 23.2	34.9		
55	30.230	39.7	36.2	— 2 41.6	+ 19.6	17 57 42.8	20 55 56.4	27.2		
56	. .	. .	. .	— 5 8.0	+ 31.0	27 10 26.9	11 43 12.3	33.6		Division of circle under Mic. C obliterated.
57	. .	. .	. .	+ 2 21.2	— 54.5	317 56 31.5	80 57 7.7	52.5		Uncertain.
58	. .	. .	. .	+ 4 13.3	— 54.5	317 58 23.6	80 55 15.6	52.5		Uncertain.
59	. .	. .	. .	— 1 54.5	+ 20.7	18 53 28.6	20 0 10.6	47.8		
60	. .	. .	. .	2 55.6	20.7	18 52 27.5	+ 20 1 11.7	48.5		Uncertain.
61	30.235	38.0	34.7	4 51.8	1 3.5	46 21 16.8	— 7 27 37.6	48.3		Ext. thermometer recorded 32″.7.
62	. .	. .	. .	4 43.4	1 3.5	46 21 25.2	7 27 46.0	48.3		
63	. .	. .	. .	— 3 20.2	+ 3 0.9	71 39 45.1	— 32 46 5.9	— 53.4		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Transit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correct.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Feb. 28	1	Massalia	10.0	1	V.	114 0 4.9	4.2	4.3	7.0	1.1	9.1	5.10	24.092	+ 0.665	24.757
	2	Lacaille 3903		5	I–IX.	167 20 3.4	2.8	4.9	6.9	0.0	6.1	4.02	26.476		27.161
	3	Nadir 10h. 10m.		4		269 59 64.1	61.6	62.6	64.0	59.3	66.6	63.03	29.441		
Mar. 4	4	Moon N. L.		5	I–IX.	109 49 65.3	60.1	60.0	58.2	60.9	69.4	62.32	40.369	+ 0.646	41.015
	5	O. Arg. N. 6159	8.0	2	I, VI.	57 40 6.8:	2.4	6.1	3.6	6.0	15.3	6.70	29.937		30.583
	6	O. Arg. N. 6362	7.5	5	III–VII.	56 15 5.2	0.2	4.0	2.0	4.1	12.3	4.63	23.505		24.151
	7	O. Arg. N. 6682		5	III–VII.	55 25 6.4	2.5	6.3	4.7	5.8	13.5	6.53	30.263		30.894
	8	Nadir 7h.		3		270 0 6.4	0.9	1.8	1.5	2.1	11.1	3.97	29.481		
	9	α Canis Minoris		5	I–IX.	123 20 7.2	3.3	4.6	1.8	2.7	11.1	5.12	31.187		31.831
6	10	Venus S. L.		3	VI, VIII, IX.	113 45 11.0	8.9	9.0	11.3	7.6	14.7	10.42	29.576	+ 0.620	30.196
	11	α Canis Majoris		5	I–IX.	145 24 63.0	59.5	60.9	59.0	59.1	65.0	61.08	30.265		30.893
	12	Moon N. L.		5	I–IX.	111 29 62.8	60.1	61.0	60.2	59.5	66.0	61.60	28.390		29.018
	13	12 Cancri	7.0	1	V.	114 49 63.1	61.3	63.0	61.8	60.1	66.2	62.58	26.509		27.129
	14	Lacaille 3241	7.5	1	V.	154 44 63.1	61.0	62.5	61.4	59.4	65.1	62.08	29.490		30.110
	15	Lacaille 3249	7.5	1	V.	" " "	"	"	"	"	"	"	25.065		25.685
	16	η Cancri		1	V.	107 59 63.5	61.1	62.0	60.2	59.1	65.9	61.97	30.051		30.671
	17	B. A. C. 2899	7.0	1	IV.	108 59 64.0	61.0	61.9	61.0	59.7	65.7	62.22	11.408		12.035
	18	Anon. 8h. 31m. 4s.	9.0	1	V.	" " "	"	"	"	"	"	"	38.639		39.259
	19	B. A. C. 2914	7.0	1	V.	" " "	"	"	"	"	"	"	43.480		44.100
	20	B. A. C. 2925	7.0	1	V.	" " "	"	"	"	"	"	"	48.361		48.981
	21	Anon. 8h. 34m. 25s	7.5	1	V.	" " "	"	"	"	"	"	"	29.292		29.912
	22	Dorpat 1294, South *		1	V.	136 24 63.1	61.1	63.0	60.9	60.6	66.0	62.45	38.428		39.048
	23	Dorpat 1294, North *		1	IX.	" " "	"	"	"	"	"	"	38.612		39.232
	24	B. A. C. 3096	7.0	1	V.	153 49 64.0	60.2	63.2	61.9	58.5	64.5	62.05	28.928		29.548
	25	Lacaille 3750	7.0	1	V.	161 34 63.2	60.0	63.6	62.8	58.0	65.0	62.10	26.098		26.718
	26	λ Draconis, (Ref.)		4	I–IV.	301 9 63.1	58.5	62.7	59.0	57.9	64.1	60.88	29.201		29.907
	27	λ Draconis		4	VI–IX.	58 49 63.0	62.0	64.2	64.5	62.2	69.2	64.18	29.733		30.367
	28	Nadir		4		269 59 62.3	59.0	61.6	62.0	58.5	64.8	61.37	29.423		
	29	β Leonis, (Ref.)		3	VII–IX.	246 24 62.6	58.9	63.9	64.7	60.5	68.0	63.10	27.358		27.964
	30	Vesta	7.0	5	III–VII.	115 29 62.5	62.0	61.9	61.8	59.5	66.9	62.43	33.967		34.595
	31	o Virginis		5	III–VII.	119 24 62.8	60.0	60.9	59.9	57.0	63.0	60.60	30.645		31.264
	32	Mercury		5	I–IX.	139 30 2.9	2.0	0.3	2.8	0.8	5.8	2.43	25.800		26.425
7	33	Sun N. L.		2	I, III.	133 40 4.6	3.9	3.0	4.2	4.0	9.7	4.90	28.870		29.536
	34	Sun S. L.		2	VII, IX.	134 15 4.8	4.3	2.8	3.0	3.1	9.4	4.57	34.128		34.707
	35	Venus S. L.		3	I–IX.	113 20 6.2	2.0	2.0	1.3	2.1	9.7	3.88	29.226		29.837
	36	Venus N. C.		2	III, VII.	" " "	"	"	"	"	"	"	30.092		30.709
	37	α Canis Majoris		5	I–IX.	145 24 66.3	61.0	62.1	59.1	62.2	70.1	63.47	30.298		30.926
	38	β Geminorum, (Ref.)		3	III–IX.	259 25 7.4	0.4	3.2	3.1	4.5	13.1	5.28	25.069		25.694
	39	Anon. 7h. 49m. 32s		5	I–IX.	116 45 7.7	3.4	3.5:	1.7	3.2	11.3	5.13	18.629		19.244
	40	Moon N. L.		5	I–IX.	113 45 8.0	4.0	4.9	3.4	5.1	12.8	6.37	27.056		27.669
	41	d^3 Cancri, S. *		2	VI, IX.	101 30 8.3	5.3	4.9	4.8	5.7	13.0	7.00	27.158		27.745
	42	d^2 Cancri, N. *		1	VIII.	" " "	"	"	"	"	"	"	27.324		27.907
	43	Anon. 8h. 30m. 51s.		1	II.	108 25 8.9	7.0	6.1	4.7	6.2	13.9	7.80	27.786		28.417
	44	39 Cancri	7.7	1	I.	" " "	"	"	"	"	"	"	30.337		30.968
	45	40 Cancri	7.7	1	IV.	" " "	"	"	"	"	"	"	26.173		26.800
	46	Anon. 8h. 32m. 30s.	9.0	1	VIII.	" " "	"	"	"	"	"	"	28.915		29.542
	47	B. A. C. 2931	8.0	1	IX.	" " "	"	"	"	"	"	"	15.447		16.020
	48	B. A. C. 7299, S. P.		3	IV–III.	29 0 9.0	4.9	8.6	9.4	7.4	14.9	9.03	33.338		34.023
	49	Massalia	9.5	5	I–IX.	113 40 9.4	6.3	6.7	6.6	6.7	14.1	8.30	27.927		28.540
	50	O. Arg. N. 22321, S.P.		2	IV, III.	18 50 9.8	6.3	9.1	9.3	8.3	13.4	9.37	29.650		30.303
	51	β Cephei, S. P.		3	VI–IV.	" " "	"	"	"	"	"	"	20.819		21.447
	52	μ Leonis, (Ref.)		2	I, IV.	257 45 11.0	7.3	9.0	9.7	9.1	17.4	10.58	30.082		30.734
	53	μ Leonis		1	IX.	102 15 10.0	8.0	7.9	8.2	8.3	15.3	9.62	29.365		29.931
	54	α Leonis, (Ref.)		2	I, III.	243 45 8.3	3.6	6.1	5.2	5.2	13.3	6.95	31.301		31.950
	55	α Leonis		1	VII½.	116 15 9.9	6.7	6.0	6.2	7.7	14.0	8.42	27.942		28.589
	56	Nadir 10h. 35m.		4		270 0 8.2	2.8	4.6	3.7	4.5	11.4	5.89d	29.570		
	57	α Ursæ Majoris, (Ref.)		1	VIII.	293 35 7.7	3.0	6.0	2.4	4.9	10.9	5.82	30.561		31.215
	58	β Leonis, (Ref.)		3	II–VIII.	246 25 7.4	3.4	6.8	7.8	7.2	15.0	7.93	27.514		28.139
	59	Vesta		3	III–VII.	115 20 6.3	4.0	3.7	3.1	3.8	10.9	5.30	30.615		31.233
8	60	Sun S. L.		4	I–IV.	133 50 6.1	1.9	2.2	1.2	3.4	12.2	4.50	30.926		31.505
	61	Sun N. L.		4	VI–IX.	133 20 7.3	3.7	2.6	1.3	4.0	12.1	5.17	35.200		35.785
10	62	Venus S. L.		3	IV–VI.	112 10 7.1	5.2	6.3	9.0	1.0	9.9	6.42	34.125	+ 0.645	34.769
	63	θ Ursæ Majoris		1	V.	76 35 8.0	7.0	11.2	12.5	4.8	10.1	8.93	26.562		27.207
	64	Lacaille 3996	7.0	1	V.	167 45 7.9	6.0	9.5	11.3	2.4	7.0	7.35	26.645		27.290

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	+ 2 44.2	+ 27.1	24 3 16.4	+ 14 50 22.8		D.	
2	30.252	37.3	32.9	+ 1 28.9	+ 4 25.4	77 25 58.3	− 38 32 19.1	− 58.5		Bar. and ther. read at 9h. 44m.
3										
4	29.990	49.0	43.4	− 5 44.6	− 3 11.3	19 41 6.4	+ 19 12 32.8			Might better have taken the other limb.
5	. .	. .	. .	− 17.9	37.4	327 39 11.4	71 14 27.8	+ 1.9		Division under A partially obliterated.
6	. .	. .	. .	+ 3 3.8	39.5	326 17 29.0	72 36 10.2	− 4.0		
7	30.044	47.0	41.3	− 27.7	− 40.9	325 23 57.9	73 29 41.3	11.3		
8										
9	30.086	46.0	39.6	57.3	+ 39.2	33 19 47.0	5 33 52.2	− 23.2		Windy; nadir obtained with difficulty; cloudy.
10	30.314	44.0	44.9	4.6	7.3	23 45 13.1	+ 15 8 26.1			
11	30.338	41.5	37.0	− 28.0	+ 1 27.6	55 26 0.6	− 16 32 21.4	+ 3.9	Ha.	
12	30.348	41.0	36.1	+ 31.2	− 4 37.2	21 25 55.7	+ 17 27 43.5			
13	30.344	40.0	34.2	+ 1 29.9	+ 28.2	24 52 0.6	+ 14 1 38.6	− 35.9		
14	. .	. .	. .	− 3.5	2 8.5	64 47 7.1	− 25 53 27.9	31.5		
15	. .	. .	. .	+ 2 15.1	2 8.8	64 49 25.9	− 25 55 46.7	31.9		
16	. .	. .	. .	− 21.0	19.8	18 0 0.7	+ 20 53 38.5	45.6		
17	. .	. .	. .	+ 9 22.5	21.3	19 9 46.0	19 43 53.2	47.0		
18	. .	. .	. .	− 4 49.9	20.9	18 55 33.2	19 58 6.0	47.4		
19	. .	. .	. .	7 21.4	20.9	18 53 1.7	20 0 37.5	47.7		
20	. .	. .	. .	− 9 54.3	20.8	18 50 28.7	20 3 10.5	48.1		
21	30.342	40.0	33.5	+ 2.7	21.0	19 0 26.0	+ 19 53 13.2	48.4		
22	. .	. .	. .	− 4 43.3	1 3.8	46 21 22.9	− 7 27 43.7	47.5		
23	. .	. .	. .	− 4 48.3	1 3.8	46 21 17.9	7 27 38.7	47.5		
24	. .	. .	. .	+ 14.2	2 3.6	63 52 19.8	24 58 40.6	48.2		
25	30.342	39.5	33.1	1 42.8	3 1.8	71 39 46.7	− 32 46 7.5	51.9		
26	. .	. .	. .	+ 2.9	+ 37.0	31 10 40.7	+ 70 4 20.0	85.9		
27	30.320	37.0	31.6	− 8.3	− 37.0	328 49 18.8	70 4 20.4			
28										
29	. .	. .	. .	+ 1 3.7	− 26.7	336 25 40.1	15 19 19.3	83.2		
30	. .	. .	. .	− 2 23.5	+ 29.1	25 28 8.0	13 25 31.2			
31	30.322	37.0	31.8	− 39.6	34.5	29 24 55.5	+ 9 28 43.7	− 84.0		
32	30.284	43.0	45.4	+ 1 51.9	1 4.8	49 32 59.1	− 10 39 19.9		D.	Bar. read 4 or 5m. before observation. Therm's interpolated from those of next obs., and the following taken at 23h. 32m.: Ext. 47°.0; At. 44°.2. Cor. for def. ill. = + 0″.05.
33	. .	.	. .	+ 14.5	50.6	43 41 10.0				
34	30.255	43.7	46.4	− 2 27.4	51.6	44 13 28.7	− 5 3 40.1			
35	. .	. .	. .	+ 5.1	19.9	23 20 28.8				
36	30.179	48.0	49.6	− 22.2	19.9	23 20 1.5	+ 15 33 24.6			
37	30.124	46.7	43.4	− 29.0	1 25.8	55 26 0.2	− 16 32 21.0	+ 3.9		Cor. for def. ill. = − 1″.16.
38	30.120	45.8	42.5	+ 2 14.8	11.0	10 32 51.0	+ 28 20 48.3	− 31.4		
39	. .	. .	. .	5 36.7	+ 30.1	26 51 11.9	12 2 27.3	31.2		
40	30.112	45.5	41.8	1 13.0	− 6 32.3	23 39 47.0	15 13 52.2			Remarkably steady and well defined.
41	. .	. .	41.6	1 10.6	+ 12.1	11 31 29.7	27 22 9.5	45.3		
42	. .	. .	. .	1 5.5	12.1	11 31 24.6	27 22 14.6	45.3		
43	. .	. .	. .	+ 49.6	19.8	18 26 17.2	20 27 22.0	47.5		
44	. .	. .	. .	− 30.3	19.8	18 24 57.3	20 48 41.9	47.9		
45	. .	. .	. .	+ 1 40.2	19.9	18 27 7.9	20 26 31.3	48.0		
46	. .	. .	. .	15.6	19.8	18 25 43.2	20 27 56.0	48.0		
47	. .	. .	. .	+ 7 17.7	+ 20.0	18 32 45.5	20 20 53.7	− 48.5		
48	. .	. .	. .	− 2 5.9	− 1 47.3	298 56 15.8	80 2 36.6	+ 69.7		
49	30.108	44.5	40.6	+ 45.7	+ 26.1	23 41 20.1	15 12 19.1			
50	. .	. .	. .	− 9.5	− 2 53.2	288 47 6.6	69 53 27.4	77.8		
51	. .	. .	. .	+ 4 27.7	2 52.4	288 51 44.6	69 58 5.4	+ 78.1		
52	. .	. .	. .	− 23.0	− 13.0	347 44 34.5	26 38 13.8	− 68.7		
53	. .	. .	. .	+ 2.2	+ 13.0	12 15 24.8	26 38 14.4			
54	. .	. .	. .	− 1 1.0	− 29.4	333 43 36.5	12 37 15.8	70.1		
55	30.110	44.0	40.3	+ 45.8	+ 29.4	26 16 23.6	12 37 15.6			Barometer and thermometer read at 10h. 21m. Evening cloudy.
56										
57	. .	. .	40.0	− 38.0	26.0	23 34 53.8	62 28 33.1	84.0		
58	. .	. .	. .	+ 58.3	26.0	336 25 40.2	15 19 19.5	83.2		
59	30.080	44.0	39.6	− 38.6	28.2	25 19 54.9	+ 13 33 44.3			
60	30.108	49.0	58.2	49.6	49.2	43 50 4.1			Ha.	
61	. .	. .	. .	3 1.1	48.3	43 17 52.3	− 4 40 19.0			
62	29.906	39.0	36.1	− 2 29.3	+ 4.8	22 7 41.9	+ 16 45 57.3			
63	30.096	34.5	27.1	+ 1 27.4	− 14.6	346 36 21.7	+ 52 17 17.5	69.5		
64	. .	. .	. .	+ 1 24.8	+ 4 36.7	77 51 8.8	− 38 57 29.6	− 60.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Mar. 10	1	Anon. 9h. 43m. 32s.	9.0	1	VIII.	167 45 7.9	6.0	9.5	11.3	2.4	7.0	7.35	27.092	+ 0.645	27.7
	2	Anon. 9h. 50m. 24s.	7.5	1	V.	" " "	"	"	"	"	"	"	31.258	. .	31.9
	3	Anon. 9h. 52m. 21s.	9.0	1	V.	" " "	"	"	"	"	"	"	28.972	. .	29.6
	4	Anon. 9h. 58m. 5s.	7.5	1	V.	167 25 7.2	7.0	10.0	12.1	3.3	7.6	7.87	25.528	. .	26.1
	5	Lacaille 4387	7.0	1	V.	164 50 7.0	5.5	8.7	12.0	3.1	8.5	7.47	31.944	. .	32.5
	6	O. Arg. S. 10906	7.0	1	V.	155 0 6.7	5.9	7.2	9.5	1.4	7.7	6.40	33.541	. .	34.1
	7	Lacaille 4516	. .	1	V.	155 10 6.9	6.0	8.5	9.2	1.8	7.2	6.60	34.742	. .	35.3
	8	Lacaille 4566	7.0	1	VIII.	165 55 6.1	5.7	7.5	11.0	0.5	7.0	6.30	26.838	. .	27.4
	9	Lacaille 4630	7.0	1	V.	154 10 7.0	6.4	9.1	9.5	0.4	7.0	6.57	34.268	. .	34.9
	10	Lacaille 4638	7.0	1	V.	" " "	"	"	"	"	"	"	18.305	. .	1e.9
	11	O. Arg. S. 11250	7.0	1	V.	" " "	"	"	"	"	"	"	25.380	. .	26.0
	12	Anon. 11h. 33m. 34s.	7.0	1	V.	156 35 7.1	6.0	8.3	10.9	2.0	6.9	6.87	26.878	. .	27.5
	13	Lacaille 4882	7.5	1	V.	162 50 7.9	6.1	8.8	11.1	1.0	7.9	7.13	28.211	. .	28.8
	14	Vesta	. .	1	V.	114 55 7.2	8.1	10.3	12.2	3.5	10.1	8.57	28.988	. .	29.6
	15	Nadir 11h. 55m.	. .	5	. .	270 0 7.9	7.1	9.0	11.7	2.1	8.6	7.73	29.576	. .	. .
11	16	Sun N. L.	. .	2	I, III.	132 10 5.0	7.6	6.0	9.2	3.0	8.0	6.47	36.133	+ 0.634	36.7
	17	Sun S. L.	. .	2	VII, IX.	132 40 4.7	6.8	5.4	9.0	3.3	8.0	6.20	31.968	. .	32.5
	18	Venus S. L.	. .	3	I–IX.	111 45 3.4	3.2	0.7	4.8	0.2	7.7	3.33	30.986	. .	31.6
	19	Venus N. C.	. .	2	III, VII.	" " "	"	"	"	"	"	"	31.897	. .	32.5
	20	O. Arg. N. 7681	. .	1	V.	49 45 3.0	1.7	3.8	5.6	1.9	9.4	4.23	26.985	. .	27.6
	21	Weisse (2) VII, 1022	9.5	1	VII.	107 40 7.0	5.7	6.0	7.7	4.3	9.3	6.67	35.014	. .	35.6
	22	Weisse VII, 1459	9.5	1	V.	116 55 7.0	4.8	. .	5.6	2.3	8.8	5.45	20.886	. .	21.5
	23	Weisse (2) VIII, 83	. .	3	III–VII.	108 10 6.4	6.1	5.3	5.8	3.0	11.0	6.27	25.000	. .	25.6
	24	Weisse VIII, 389	10.0	1	V.	116 50 5.8	3.8	. .	4.5	1.2	8.5	4.60	28.690	. .	29.3
	25	Anon. 8h. 30m. 51s.	7.0	1	III.	108 20 7.2	5.0	4.2	5.1	1.5	9.6	5.43	18.152	. .	18.7
	26	Anon. 8h. 31m. 54s.	7.0	1	IV.	" " "	"	"	"	"	"	"	29.610	. .	30.2
	27	Anon. 8h. 32m. 14s.	9.0	1	IX.	" " "	"	"	"	"	"	"	38.956	. .	39.5
	28	ι Ursæ Majoris, (Ref.)	. .	5	I–IX.	279 40 6.5	4.0	4.0	4.4	2.7	8.8	5.07	29.148	. .	29.7
	29	Nadir 9h. 40m.	. .	5	. .	270 0 7.0	3.6	4.1	6.8	3.1	10.3	5.82	29.560	. .	. .
	30	α Leonis, (Ref.)	. .	2	I, III.	243 45 6.6	4.0	7.0	7.9	4.3	11.9	6.95	31.285	. .	31.9
	31	α Leonis	. .	2	VII, IX.	116 15 6.1	5.1	4.5	4.6	2.9	9.5	5.45	27.870	. .	28.4
	32	Anon. 10h. 28m. 57s.	9.0	3	III–VII.	158 25 7.1	5.8	7.1	7.7	2.9	8.7	6.55	20.190	. .	20.7
	33	O. Arg. S. 10912	8.5	3	III–VII.	158 40 7.6	6.0	7.6	8.3	3.5	9.4	7.07	26.300	. .	26.9
	34	α Ursæ Majoris, (Ref.)	. .	3	III–V.	293 35 7.8	5.8	7.3	7.5	5.0	10.0	7.23	30.568	. .	31.2
	35	α Ursæ Majoris	. .	2	VIII, IX.	66 25 7.4	5.6	7.6	10.0	5.8	14.5	8.48	28.746	. .	29.3
	36	Moon S. L.	. .	4	I–IV.	128 35 7.3	4.8	5.4	6.8	2.2	10.1	6.10	36.237	. .	36.7
	37	Moon N. L.	. .	4	VI–IX.	128 5 8.7	6.5	5.3	7.8	4.5	11.3	7.35	35.719	. .	36.3
	38	B. A. C. 3969	. .	5	I–IX.	160 35 9.6	7.7	10.5	9.5	4.8	11.9	9.00	27.620	. .	28.2
	39	Vesta	. .	5	I–IX.	114 45 7.9	7.7	7.7	8.5	5.2	12.6	8.27	24.734	. .	25.3
	40	Lacaille 4993	7.0	3	III–VII.	167 5 6.6	5.4	7.3	9.1	3.9	9.4	6.95	29.789	. .	30.4
	41	Flora	9.0	1	VII.	120 5 5.7	4.0	4.0	4.4	2.3	8.0	4.73	25.779	. .	26.3
12	42	α Lyræ	. .	5	I–IX.	90 14 63.6	58.9	60.5	58.3	60.2	68.9	61.73	30.920	. .	31.5
13	43	Sun S. L.	. .	4	I–IV.	131 50 10.2	6.1	3.1	4.9	7.3	15.8	7.90	26.460	. .	27.1
	44	Sun N. L.	. .	4	VI–IX.	131 20 11.2	6.8	4.8	3.8	8.5	15.6	8.45	30.794	. .	31.3
	45	Polaris	. .	5	1–5.	40 20 9.2	4.7	5.0	5.1	6.7	18.3	8.17	31.221	. .	31.8
	46	Venus S. L.	. .	3	I–IX.	111 0 9.8	5.3	0.0	1.8	4.8	16.3	6.33	32.159	. .	32.7
	47	Venus N. C.	. .	2	III, VII.	" " "	"	"	"	"	"	"	33.051	. .	33.6
	48	Anon. 11h. 33m. 34s.	7.5	1	V.	156 34 67.0	59.8	61.0	59.1	60.9	71.1	63.15	26.512	. .	27.1
	49	Vesta	. .	1	V.	114 35 9.1	3.3	4.0	1.1	3.8	15.9	6.20	34.560	. .	35.1
	50	Lacaille 4948	. .	1	V.	155 10 9.0	2.6	4.0	0.5	4.0	13.9	5.67	29.712	. .	30.3
	51	B. A. C. 4063	. .	1	V.	133 35 9.0	3.8	3.2	1.3	3.8	15.6	6.12	26.455	. .	27.0
	52	13 Virginis	6.5	1	V.	128 54 69.0	62.3	62.0	59.5	63.1	74.9	65.13	28.962	. .	29.5
	53	η Virginis	6.0	1	V.	" " "	"	"	"	"	"	"	42.779	. .	43.4
	54	B. A. C. 4198	. .	1	VI.	144 44 68.8	60.7	62.0	58.1	62.1	72.8	64.08	28.419	. .	29.0
	55	δ Corvi	5.0	1	V.	" " "	"	"	"	"	"	"	42.318	. .	42.9
	56	B. A. C. 4256	7.0	1	VI.	158 35 9.9	2.8	4.9	3.0	3.5	14.0	6.35	35.081	. .	35.7
	57	Moon S. L.	. .	5	I–IX.	136 30 9.9	4.2	4.5	0.9	4.8	16.1	6.73	31.749	. .	32.3
	58	Nadir 13h. 0m.	. .	4	. .	270 0 9.7	0.9	3.0	1.5	3.4	16.0	5.75	29.543	. .	. .
	59	Polaris, S. P.	. .	5	5–1.	37 30 10.1	3.4	6.0	5.0	5.2	16.6	7.72	28.598	. .	29.2
14	60	Sun N. L.	. .	2	I, III.	130 55 10.5	6.0	3.0	5.2	2.6	17.1	7.40	27.970	. .	28.6
	61	Sun S. L.	. .	2	VII, IX.	131 30 10.5	5.5	3.2	4.8	3.0	16.8	7.30	33.470	. .	34.0
17	62	Sun N. L.	. .	4	I–IV.	129 45 9.1	3.4	3.3	4.9	0.5	12.1	5.55	29.795	+ 0.704	30.5
	63	Sun S. L.	. .	4	VI–IX.	130 20 9.1	4.4	4.0	5.6	0.2	12.5	5.97	35.327	. .	35.9
	64	Polaris	. .	5	1–5.	40 20 8.9	5.6	7.5	10.0	3.1	16.8	8.65	31.096	. .	31.7

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1				+ 1 10.8	+ 4 36.7	77 50 54.8	— 38 57 15.6	— 61.4	Ha.	
2				— 59.6	4 36.0	77 48 43.7	38 55 4.5	63.5		
3				+ 12.0	4 36.4	77 49 55.7	38 56 16.5	64.0		
4				+ 1 59.8	4 29.9	77 31 37.5	38 37 58.3	65.7		
5	30.096	33.0	26.1	— 1 21.1	3 43.0	74 52 29.3	35 58 50.1	74.5		
6				2 11.0	2 10.9	65 0 6.3	26 6 27.1	76.4		
7				— 2 48.7	2 11.8	65 9 29.7	26 15 50.5	77.6		
8				+ 1 18.8	4 1.2	76 0 26.3	37 6 47.1	79.3		
9				— 2 33.8	2 6.1	64 9 38.8	25 15 59.6	80.1		
10				+ 5 45.9	2 6.9	64 17 59.3	25 24 20.1	80.4		
11	30.100	32.5	25.9	2 4.5	2 6.5	64 14 17.5	25 20 38.3	80.8		
12				1 17.5	2 21.4	66 38 4..7	27 45 6.5	84.4		
13				35.8	3 17.1	72 54 0.0	— 34 0 20.8	85.7		
14	30.102	32.5	25.1	+ 11.5	28.6	24 55 48.6	+ 13 57 50.6			
15										Image very unsteady.
16				— 3 33.3	48.6	42 7 21.7			D.	
17	30.128	37.0	37.0	1 20.2	49.5	42 39 35.5	— 3 29 49.4			
18				50.4	18.4	21 44 31.3				
19	30.052	40.0	41.0	— 1 19.1	+ 18.4	21 44 2.6	+ 17 9 22.9			Cor. for defective illumination = — 1″.20.
20	30.072	39.5	34.2	+ 1 14.5	— 51.0	319 45 27.7	79 8 11.5	35.4		
21				— 2 56.1	+ 19.2	17 37 29.7	21 16 9.5	29.0		
22	30.092	38.7	33.7	+ 4 25.5	30.8	27 0 1.7	11 54 40.1	31.4		Division of circle under C obliterated. Recorded 21r. 896. Reobserved March 23.
23				2 16.8	19.9	18 12 42.9	20 40 56.3	39.5		
24				21.2	30.6	26 50 56.4	12 2 42.8	40.7		Division of circle under C obliterated.
25				+ 5 50.7	20.2	18 26 16.3	20 27 22.9	47.8		Recorded meridian transit 8h. 30m. 6s. — assumed error of 45s.
26				— 7.9	20.0	18 20 17.5	20 33 21.7	48.1		Recorded as observed on wire III.
27				— 4 58.8	20.0	18 15 26.6	20 38 12.6	48.3		Whole rev. recorded, 37.
28	30.098	38.3	33.7	+ 5.9	+ 10.3	9 40 21.2	48 34 0.5	60.6		
29										
30				— 1 1.0	— 30.0	333 43 35.9	12 37 15.1	70.3		
31	30.096	37.8	31.7	+ 47.7	+ 30.0	26 16 23.1	+ 12 37 16.1			
32				4 47.1	2 33.0	68 32 26.6	— 29 38 47.4	73.3		
33			32.1	+ 1 35.8	2 34.4	68 44 17.2	— 29 50 38.0	76.3		Other stars in the field.
34				— 38.3	+ 26.5	23 34 55.4	+ 62 28 34.7	85.1		
35				+ 22.5	— 26.5	336 25 4.4	62 28 34.8			
36				— 3 30.0	32 39.3	37 58 56.8				A little unsteady.
37				— 3 24.1	— 32 18.8	37 29 24.4	+ 1 9 28.6			Cor. for defective illumination = — 0″.81.
38	30.096	37.7	32.0	+ 54.2	+ 2 50.8	70 38 54.0	— 31 45 14.8	84.8		
39				+ 2 25.2	28.0	24 48 1.4	+ 14 5 37.8			Unsteady and blurred.
40				— 13.5	4 18.9	77 9 12.3	— 38 15 33.1	— 87.7		
41	30.100	37.2	32.9	+ 1 52.9	35.1	30 7 32.7	+ 8 46 6.5			
42				— 48.0	0.2	0 14 13.9	+ 38 39 25.3	+ 24.9	N.	
43				+ 1 29.8	45.4	41 52 23.1			Ha.	
44	30.246	53.0	64.0	— 43.6	+ 44.5	41 20 9.3	— 2 42 37.0			
45	30.215	55.0	65.5	57.9	— 1 7.0	310 18 3.3	+ 88 35 35.9	+ 82.5	D.	
46	30.222	58.0	65.5	1 27.1	+ 16.6	20 58 55.8	+ 17 54 58.0			
47				— 1 55.2	16.6	20 58 27.7				Cor. for defective illumination = — 1″.1
48	30.288	53.5	49.3	+ 1 29.3	2 15.4	66 38 47.8	— 27 45 8.6	— 83.9	Ha.	
49				— 2 42.6	26.9	24 32 50.5	+ 14 20 48.7			
50				— 10.8	2 6.7	65 12 1.5	— 26 18 22.3	85.5		
51				+ 1 31.1	56.1	43 37 33.3	4 43 54.1	84.4		Looked for Flora and found it too faint to observe.
52				+ 12.7	47.6	38 56 5.4	— 0 2 26.2	84.6		
53				— 6 59.9	47.4	38 48 52.6	+ 0 4 46.6	84.6		
54				+ 29.9	1 23.4	54 46 57.3	— 15 53 18.1	86.0		
55	30.294	53.5	48.3	— 6 45.5	1 23.0	54 39 41.5	15 46 2.3	86.0		
56				2 58.7	+ 2 29.1	68 34 36.7	29 40 57.5	87.9		
57				— 1 14.7	— 52 43.5	45 36 8.5	— 6 42 29.3			
58										
59	30.298	53.0	47.8	+ 23.9	— 1 16.9	307 29 14.7	+ 88 35 35.5	— 82.7		
60				+ 42.3	+ 43.7	40 56 33.4			D.	Steady and well defined.
61	30.340	55.7	67.8	— 2 7.2	44.6	41 28 44.7	— 2 19 0.8			Steady and well defined.
62	30.102	55.0	53.6	16.8	42.8	39 45 31.5			Ha.	
63				3 7.7	+ 43.6	40 17 41.8	— 1 7 57.4			
64	30.080	56.5	55.0	— 56.2	— 1 8.0	310 18 4.4	+ 88 35 34.8	+ 83.8		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Cond
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r
Mar. 17	1	Venus S. L.		4	II–VIII.	109 35 8.2	3.5	2.0	3.0	0.8	12.9	5.07	33.903	+ 0.704	
	2	Venus N. L.		3	III–VII.	" " "	"	"	"	"	"	"	34.805	. .	
	3	Nadir 9h. 0m.		5	. .	270 0 8.4	2.0	4.8	3.9	1.7	13.2	5.67	29.477	. .	
	4	μ Leonis		5	I–IX.	102 15 7.8	4.0	4.1	5.1	1.8	13.1	5.98	29.166	. .	
	5	α Leonis		5	I–IX.	116 15 9.8	5.0	5.8	4.8	2.0	14.0	6.90	27.807	. .	
	6	32 Ursæ Majoris		1	V.	63 10 9.0	5.0	7.2	7.1	4.0	15.6	7.98	34.527	. .	
	7	9 Draconis		5	III–VII.	52 30 9.0	3.5	7.9	8.1	3.1	16.0	7.93	29.448	. .	
	8	l Leonis		1	V.	117 40 8.8	3.2	3.9	3.6	0.3	12.3	5.35	33.538	. .	
	9	α Ursæ Majoris		5	III VII.	66 25 7.9	1.5	7.0	6.0	3.5	15.5	6.90	26.649	. .	
	10	α Lyræ		5	III VII.	90 14 66.4	61.0	63.0	63.3	59.1	70.8	63.93	30.941	. .	
18	11	Sun S. L.		2	I, III.	129 55 11.1	4.9	1.5	6.4	3.3	15.7	7.10	32.807	+ 0.674	
	12	Sun N. L.		2	VII, IX.	129 20 12.4	6.8	3.7	8.0	6.1	17.5	9.08	27.564	. .	
	13	Venus S. L.		3	I–IX.	109 10 13.0	6.8	5.0	8.8	5.2	18.9	9.62	25.105	. .	
	14	Venus N. C.		2	III, VII.	" " "	"	"	"	"	"	"	26.081	. .	
	15	B. A. C. 2320		5	1–5.	39 50 13.0	9.3	11.6	16.5	9.3	20.9	13.44	22.312	. .	
	16	Lacaille 3582		5	I–IX.	160 30 13.0	8.9	12.7	14.1	4.4	16.1	11.53	29.701	. .	
	17	Lacaille 3700		5	I–IX.	158 10 10.7	6.8	9.2	12.1	1.8	13.1	8.95	33.748	. .	
	18	Anon. 9h. 14m. 39s.	6.0	5	I–IX.	157 30 10.4	6.0	8.1	12.8	2.8	13.4	8.92	39.239	. .	
	19	Weisse IX, 488		5	I–IX.	141 0 10.6	5.3	7.7	11.7	1.1	13.7	8.35	26.813	. .	
	20	O. Arg. N. 22729, 8. P.	7.5	5	VII–III.	19 35 10.1	7.9	10.3	14.2	3.9	13.7	10.02	23.159	. .	
	21	11 Cephei, S. P.	5.0	5	VII–III.	" " "	"	"	"	"	"	"	24.220	. .	
	22	Lacaille 4089		5	I–IX.	157 30 10.6	6.1	8.4	13.1	2.4	13.9	9.08	27.184	. .	
	23	γ^1 Leonis, (Ref.)		2	I, III.	251 35 10.3	6.1	8.9	12.9	4.1	16.1	9.73	24.193	. .	
	24	γ^1 Leonis		2	VII, IX.	108 25 10.7	9.9	8.9	12.8	3.6	16.0	10.32	35.130	. .	
	25	Lacaille 4382		5	I–IX.	154 0 10.4	7.2	9.8	11.7	2.7	13.6	9.23	28.102	. .	
	26	Struve Cat. Gen. 1248	9.2	5	I–IX.	103 45 10.5	6.8	9.1	12.5	4.1	15.3	9.72	32.098	. .	
	27	α Ursæ Majoris, (Ref.)		3	IV–VI.	293 35 11.3	6.5	9.6	10.8	2.9	14.3	9.23	30.529	. .	
	28	α Ursæ Majoris		1	IX.	66 25 11.3	8.0	11.3	14.5	6.3	18.8	11.70	28.908	. .	
	29	O. Arg. N. 11590		1	V.	59 0 11.3	10.1	12.0	16.4	7.9	20.6	13.05	35.294	. .	
	30	O. Arg. N. 11619	10.0	1	IX.	" " "	"	"	"	"	"	"	31.853	. .	
	31	Anon. 11h. 23m. 3s.	9.5	1	V.	56 40 11.3	8.5	11.1	16.3	6.0	19.0	12.03	24.576	. .	
	32	B. A. C. 3962		5	I–IX.	127 10 12.1	9.2	9.0	15.2	4.5	16.7	11.12	27.503	. .	
	33	Vesta		5	I–IX.	113 55 12.5	11.2	10.5	16.6	5.9	17.2	12.32	25.409	. .	
	34	B. A. C. 3992	6.0	1	IX.	" " "	"	"	"	"	"	"	36.595	. .	
	35	Flora	10.0	1	V.	109 15 12.1	9.9	7.5	13.5	3.3	15.0	10.22	32.090	. .	
	36	Nadir 12h. 20m.		4	. .	270 0 12.7	7.6	9.0	13.8	4.9	16.5	10.75	29.669	. .	
20	37	ι Ursæ Majoris, (Ref.)		4	I–IV.	279 40 14.1	5.2	6.9	3.9	8.0	19.0	9.52	29.142	+ 0.651	
	38	ι Ursæ Majoris		4	VI–IX.	80 20 14.0	8.1	9.5	9.3	11.2	24.4	12.77	30.279	. .	
	39	κ Cancri, (Ref.)		4	I–IV.	242 20 14.1	3.0	8.1	6.0	7.8	21.5	10.08	31.306	. .	
	40	κ Cancri		4	VI–IX.	117 40 15.2	6.0	5.9	5.0	7.6	20.0	9.95	28.069	. .	
	41	θ Ursæ Majoris, (Ref.)		4	I–IV.	283 25 15.1	6.5	9.2	7.4	9.9	22.0	11.68	32.665	. .	
	42	θ Ursæ Majoris		4	VI–IX.	76 35 14.9	6.5	10.1	9.2	11.0	22.8	12.42	26.826	. .	
	43	ϵ Leonis, (Ref.)		4	I–IV.	255 30 15.1	5.5	10.2	10.2	9.9	23.4	12.38	29.710	. .	
	44	ϵ Leonis		4	VI–IX.	104 30 14.8	7.1	9.2	8.7	10.2	22.1	12.02	29.830	. .	
	45	μ Leonis, (Ref.)		4	I–IV.	257 45 15.0	5.2	8.9	10.0	10.2	24.2	12.25	30.124	. .	
	46	μ Leonis		4	VI–IX.	102 15 15.0	7.1	7.9	8.1	9.0	21.6	11.45	29.396	. .	
	47	α Leonis, (Ref.)		4	I–IV.	243 45 15.8	6.0	10.2	8.0	9.3	22.7	12.00	31.476	. .	
	48	α Leonis		4	VI–IX.	116 15 15.9	7.0	8.5	6.4	9.0	21.9	11.45	28.007	. .	
	49	γ^1 Leonis, (Ref.)		4	I–IV.	251 35 14.2	5.4	9.2	8.8	10.3	23.0	11.82	24.339	. .	
	50	γ^1 Leonis		4	VI–IX.	108 25 15.1	8.0	9.1	7.1	8.9	21.8	11.67	35.157	. .	
	51	ρ Leonis, (Ref.)		4	I–IV.	241 5 14.2	4.1	9.0	8.0	9.2	22.2	11.12	26.609	. .	
	52	ρ Leonis		4	VI–IX.	118 55 14.0	5.0	5.2	4.5	5.7	19.0	8.90	32.768	. .	
	53	l Leonis, (Ref.)		4	I–IV.	242 20 15.0	4.7	9.0	8.0	8.9	22.1	11.28	25.676	. .	
	54	l Leonis		4	VI–IX.	117 40 14.1	4.9	5.2	5.0	6.6	19.0	9.13	33.709	. .	
	55	α Ursæ Majoris, (Ref.)		4	I–IV.	293 35 15.2	5.3	9.2	5.8	8.5	20.5	10.75	30.534	. .	
	56	α Ursæ Majoris		4	VI–IX.	66 25 14.6	5.1	9.8	9.0	10.0	23.0	11.92	28.916	. .	
	57	Nadir 11h. 5m.		4	. .	270 0 15.1	5.1	7.8	7.0	8.3	21.1	10.73	29.694	. .	
	58	Vesta		5	I–IX.	113 45 15.4	7.8	8.7	8.5	9.0	21.2	11.77	30.697	. .	
	59	α Lyræ		5	I–IX.	90 15 7.2	0.9	2.8	2.3	0.8	14.7	4.78	31.013	. .	
22	60	B. A. C. 3489	6.5	1	V.	155 15 8.2	3.5	6.0	5.9	0.3	10.8	5.78	31.975	. .	
	61	45 Leonis	7.0	1	V.	118 25 14.7	9.2	9.1	11.1	5.0	17.2	11.05	26.973	. .	
	62	Lacaille 4340		1	V.	155 30 15.0	8.1	12.2	12.2	6.4	16.0	11.65	27.602	. .	
	63	37 Sextantis	7.0	1	V.	121 50 15.2	9.1	12.0	12.9	7.0	18.1	12.38	33.020	. .	
	64	b^3 Hydræ		1	V.	148 15 15.0	7.2	11.7	11.3	5.2	15.2	10.93	25.521	. .	
	65	Vesta		1	V.	113 35 15.0	9.4	10.9	13.5	6.1	19.0	12.32	34.372	. .	
	66	β Leonis		1	V.	" " "	"	"	"	"	"	"	31.905	. .	

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.062	58.0	57.4	— 2 24.1	+ 15.3	19 32 56.2	+ 19 20 57.7		Ha.	
2	. .	. .	. .	— 2 52.4	15.3	19 32 27.9				Cor. for defective illumination = — 1″.1.
3										
4	30.020	55.5	51.4	+ 4.4	12.6	12 15 23.0	26 38 16.2	— 69.7		
5	. .	. .	. .	+ 46.8	+ 28.7	26 16 22.4	12 37 16.8	70.4		
6	. .	. .	. .	— 2 43.8	— 29.5	333 6 54.6	65 46 44.6	82.1		
7	30.006	55.5	51.7	3.8	— 44.5	322 29 19.6	76 24 19.6	86.0		
8	. .	. .	. .	— 2 12.8	+ 30.4	27 38 22.9	11 15 16.3	77.6		
9	29.998	55.5	51.9	+ 20.7	— 25.3	336 25 2.3	62 28 36.9	86.8		
10	. .	. .	. .	— 0 51.3	+ 0.2	0 14 12.8	+ 38 39 26.4		N.	
11	. .	. .	. .	— 1 50.3	42.8	39 53 59.6	— 0 44 14.3		D.	
12	30.154	60.7	56.4	+ 56.5	41.9	39 21 47.5				Windy. Mercury in barometer oscillating.
13	30.184	59.0	55.1	2 12.5	15.0	19 12 37.1	+ 19 41 18.2			
14	. .	. .	. .	1 41.7	+ 15.0	19 12 6.3				Cor. for defective illumination = — 1″.2.
15	30.264	51.5	47.0	+ 3 39.8	— 1 10.7	309 52 42.5	+ 89 0 56.7	42.0		
16	30.304	49.0	43.4	— 12.2	+ 2 46.9	70 32 46.2	— 31 39 7.0	42.5		
17	.	. .	. .	2 18.9	2 27.8	68 10 17.8	29 16 38.6	48.0		
18	. .	. .	. .	— 5 10.8	2 22.8	67 27 20.9	28 33 41.7	51.6		
19	30.307	48.2	41.8	+ 1 18.5	+ 1 13.9	51 2 40.7	— 12 9 1.5	— 56.6		
20	. .	. .	. .	3 12.4	— 2 46.4	289 35 36.0	+ 70 41 56.8	+ 83.2		Deg's and minutes of circle reading not recorded.
21	. .	. .	. .	2 39.2	— 2 46.5	289 35 2.7	+ 70 41 23.5	+ 83.7		Circle reading not recorded.
22	. .	. .	41.1	1 6.7	+ 2 23.9	67 33 39.6	— 28 40 0.4	— 62.9		
23	. .	. .	. .	+ 2 39.7	— 19.9	341 37 29.5	+ 20 31 8.8			
24	. .	. .	. .	— 3 0.7	+ 19.9	18 22 29.5	+ 20 31 9.7	74.1		
25	30.312	47.2	40.3	+ 37.9	2 2.6	64 2 49.7	— 25 9 10.5	72.8		Whole revolutions recorded, 23.
26	. .	. .	. .	— 1 26.4	14.7	13 43 58.0	+ 25 9 41.2	79.8		
27	. .	. .	. .	— 37.8	+ 26.2	23 34 57.6	62 28 36.9	87.0		
28	. .	. .	. .	+ 16.9	— 26.2	236 25 2.4	62 28 36.8			
29	. .	. .	. .	— 3 6.8	36.2	328 56 30.0	69 57 9.2	88.9		
30	. .	. .	. .	— 1 14.0	36.2	328 58 22.8	69 55 16.4	89.0		Bisection uncertain.
31	. .	. .	38.3	+ 2 28.7	— 39.6	326 42 1.1	72 11 38.1	89.7		
32	. .	. .	. .	57.1	+ 45.7	37 11 53.9	1 41 45.3	82.7		
33	. .	. .	. .	+ 2 2.8	26.8	23 57 41.9	14 55 57.3			
34	30.302	46.5	37.9	— 3 46.3	26.7	23 51 52.7	15 1 46.5	83.8		
35	. .	. .	. .	— 1 26.5	21.0	19 14 4.7	19 39 34.5	84.4		
36										
37	. .	. .	. .	+ 5.0	+ 9.8	9 40 24.3	48 34 3.6	61.9	Ha.	
38	29.960	59.5	58.3	— 27.7	— 9.8	350 19 35.2	48 34 4.0			
39	. .	. .	. .	— 1 2.1	— 30.0	332 18 37.9	11 12 17.2	54.6		
40	. .	. .	. .	+ 40.8	+ 30.0	27 41 20.7	11 12 18.5			
41	. .	. .	. .	— 1 45.4	+ 13.7	13 23 39.9	52 17 19.2	74.1		
42	29.954	60.0	57.5	+ 1 20.6	— 13.7	346 36 19.3	52 17 19.9			
43	. .	. .	. .	— 12.2	— 14.8	345 29 45.3	24 23 24.6	67.8		
44	. .	. .	. .	14.1	+ 14.8	14 30 12.7	24 23 26.5			
45	. .	. .	. .	25.2	— 12.5	347 44 34.5	26 38 13.8	69.9		
46	. .	. .	. .	0.5	+ 12.5	12 15 23.4	26 38 15.8			
47	. .	. .	. .	— 1 7.3	— 28.3	333 43 36.4	12 37 15.6	70.4		
48	. .	. .	. .	+ 42.8	+ 28.3	26 16 22.5	12 37 16.7			
49	. .	. .	. .	+ 2 36.0	— 19.1	341 37 28.7	20 31 8.0	74.2		
50	. .	. .	. .	— 3 1.0	+ 19.1	18 22 29.7	20 31 9.5			
51	. .	. .	. .	+ 1 25.1	— 31.7	331 6 4.5	9 59 43.8	73.8		
52	29.938	59.0	56.0	— 1 46.3	+ 31.7	28 53 54.3	9 59 44.9			
53	. .	. .	. .	+ 1 54.2	— 30.1	332 21 35.3	11 15 14.6	77.6		
54	. .	. .	. .	— 2 15.8	+ 30.1	27 38 23.4	11 15 15.8			
55	. .	. .	. .	— 39.1	+ 25.1	23 34 56.7	62 28 36.0	87.4		
56	29.930	59.0	55.5	+ 15.6	— 25.1	336 25 2.4	62 28 36.8			
57										
58	29.924	59.0	55.5	— 42.0	+ 25.3	23 44 55.0	15 8 44.2			
59	. .	. .	. .	51.5	0.3	0 14 3.5	+ 38 39 25.7		N.	
60	29.582	53.0	49.8	— 1 22.2	2 3.9	65 15 47.4	— 26 22 8.2	66.0	Ha.	
61	. .	. .	. .	+ 1 14.4	31.1	28 26 56.5	+ 10 26 42.7	74.0		
62	. .	. .	. .	+ 54.7	2 5.6	65 33 11.9	— 26 29 32.7	70.8		
63	. .	. .	. .	1 55.1	35.7	31 48 52.9	+ 7 4 46.3	76.6		
64	29.590	53.0	49.3	+ 1 59.9	1 32.9	58 18 43.7	— 19 25 4.5	75.2		Could not get a nadir, on account of the furious wind.
65	29.590	53.0	48.4	— 2 37.3	25.1	23 33 0.1	+ 15 20 39.1			
66	. .	. .	. .	— 1 20.0	+ 25.1	23 34 17.4	+ 15 19 21.8	— 83.9		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corr'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Mar. 23	1	Sun N. L.		1	IX.	127 25 8.8	2.7	1.1	4.9	0.6	12.2	5.05	33.686	+ 0.651	34.2[illegible]
	2	Venus S. L.		3	I–IX.	107 40 9.3	4.3	4.2	5.7	3.0	15.1	6.93	33.550	. .	34.[illegible]
	3	Venus N. C.		2	III, VII.	" " "	"	"	"	"	"	"	34.642	. .	35.[illegible]
	4	Weisse VII, 1459		3	III–VII.	116 59 68.6	64.9	. .	67.9	59.3	72.0	66.33	32.411	. .	33.[illegible]
	5	Weisse VIII, 83		5	I–IX.	108 10 9.4	7.0	6.3	8.5	1.0	14.7	7.82	24.996	. .	25.[illegible]
	6	Weisse VIII, 221		3	III–VII.	108 30 9.0	7.5	6.5	10.1	1.6	15.3	8.33	29.887	. .	30.[illegible]
	7	Weisse VIII, 490		2	III, VII.	112 15 8.9	4.9	4.1	8.3	0.2	13.9	6.72	31.225	. .	31.[illegible]
	8	Anon. 8h. 30m. 53s.		1	V.	108 30 9.2	7.4	6.8	10.7	1.7	15.4	8.53	27.473	. .	28.[illegible]
	9	40 Cancri		1	II.	" " "	"	"	"	"	"	"	35.738	. .	36.[illegible]
	10	39 Cancri		1	VIII.	" " "	"	"	"	"	"	"	40.003	. .	40.[illegible]
	11	B. A. C. 2931		1	VI.	" " "	"	"	"	"	"	"	25.066	. .	25.[illegible]
	12	B. A. C. 3130		3	III, V, IX.	158 40 9.4	7.0	8.7	11.3	1.2	12.5	8.35	28.583	. .	29.[illegible]
	13	Weisse IX, 488	7.5	3	I–V.	141 0 9.2	5.2	7.3	10.3	0.9	12.0	7.48	26.706	. .	27.[illegible]
	14	Weisse IX, 498	8.5	1	IX.	" " "	"	"	"	"	"	"	27.288	. .	27.[illegible]
	15	Lacaille 3945		3	III–VII.	158 55 9.8	7.4	9.7	12.8	2.0	13.2	9.15	27.818	. .	28.[illegible]
	16	Lacaille 4016		5	I–IX.	167 30 10.7	7.2	9.6	12.4	3.0	12.4	9.22	26.333	. .	27.[illegible]
	17	Anon. 9h. 46m. 20s.	10.0	1	IX.	113 55 9.8	7.7	7.8	11.7	2.3	13.1	8.73	26.818	. .	27.[illegible]
	18	Lacaille 4106[1]		2	V, IX.	156 55 11.4	7.8	9.0	12.6	3.6	13.7	9.68	32.618	. .	33.[illegible]
	19	Lacaille 4106[2]		1	VII.	" " "	"	"	"	"	"	"	33.287	. .	33.[illegible]
	20	Lacaille 4218		5	I–IX.	" " "	"	"	"	"	"	"	42.190	. .	42.[illegible]
	21	Carrington, *g*		3	1–V.	39 25 10.7	8.4	10.9	16.2	7.7	18.6	12.08	27.851	. .	28.[illegible]
	22	Nadir 11h. 5m.		3	. .	270 0 11.1	7.6	8.1	13.2	4.1	15.7	9.97	29.665	. .	. .
25	23	Lacaille 3923		5	I–IX.	152 59 67.9	63.2	65.8	68.7	59.4	67.0	65.45	32.024	+ 0.631	32.[illegible]
	24	Nadir 9h. 50m.		5	. .	270 0 8.0	4.0	4.0	7.8	1.1	7.5	5.40	29.542	. .	. .
27	25	Sun N. L.		4	I–IV.	125 50 13.8	10.0	9.0	12.0	7.5	13.1	10.90	32.248	+ 0.610	32.[illegible]
	26	Sun S. L.		4	VI–IX.	126 20 13.0	8.9	7.0	10.3	7.0	11.8	9.67	28.262	. .	28.[illegible]
	27	Mercury, centre		5	III–VII.	122 15 12.1	9.9	8.0	12.2	7.1	13.0	10.38	31.498	. .	32.[illegible]
	28	Polaris		5	1–5.	40 20 10.9	7.8	9.3	13.8	8.1	15.2	10.85	31.114	. .	31.[illegible]
	29	Venus N. C.		5	I–IX.	106 30 10.5	7.4	5.5	7.3	6.2	12.0	8.15	27.408	. .	28.[illegible]
	30	Venus S. L.		4	II–VIII.	" " "	"	"	"	"	"	"	26.329	. .	26.[illegible]
	31	Lacaille 3127	7.0	1	V.	154 10 10.1	4.4	6.1	5.5	2.9	8.1	6.18	27.391	. .	28.[illegible]
	32	O. Arg. S. 8291	8.0	1	III.	153 45 15.1	10.0	11.0	12.0	9.0	15.0	12.02	36.646	. .	37.[illegible]
	33	O. Arg. S. 8383	8.0	1	V.	" " "	"	"	"	"	"	"	16.039	. .	16.[illegible]
	34	O. Arg. S. 8654	8.0	1	V.	154 5 14.8	9.0	10.1	10.1	7.8	13.2	10.83	28.307	. .	28.[illegible]
	35	O. Arg. S. 8660	8.5	1	VIII.	" " "	"	"	"	"	"	"	36.763	. .	37.[illegible]
	36	*e* Hydræ		1	V.	122 0 14.8	8.1	9.1	9.9	7.5	13.2	10.43	32.440	. .	33.[illegible]
	37	Dorpat 1273	8.0	1	IX.	" " "	"	"	"	"	"	"	32.393	. .	32.[illegible]
	38	76 Draconis, S. P.		3	VI–IV.	30 55 14.7	9.0	11.9	14.4	9.0	15.9	12.48	26.046	. .	26.[illegible]
	39	Lacaille 3671	7.0	1	V.	157 20 14.7	9.3	11.0	13.0	8.9	13.5	11.73	28.692	. .	29.[illegible]
	40	Lacaille 4058	7.0	1	V.	156 15 14.0	8.1	9.5	12.0	8.0	12.9	10.75	32.480	. .	33.[illegible]
	41	Lacaille 4106[1]	8.5	1	III.	156 55 14.5	8.3	10.1	11.8	8.0	13.1	10.97	32.742	. .	33.[illegible]
	42	Lacaille 4106[2]	9.0	1	VI.	" " "	"	"	"	"	"	"	33.361	. .	33.[illegible]
	43	B. A. C. 3489	7.0	1	V.	155 15 14.2	9.5	11.0	11.9	8.9	13.9	11.57	32.290	. .	32.[illegible]
	44	26 Sextantis	7.0	1	V.	129 10 14.0	8.1	7.9	10.0	7.0	13.0	10.00	27.230	. .	27.[illegible]
	45	B. A. C. 3576	7.5	1	VI.	" " "	"	"	"	"	"	"	30.292	. .	30.[illegible]
	46	Nadir 11h. 20m.		4	. .	270 0 13.9	8.1	9.5	12.1	8.1	13.9	10.93	29.739	. .	. .
	47	Vesta		1	VIII.	113 5 13.5	10.1	10.6	12.1	7.8	13.3	11.23	26.278	. .	26.[illegible]
28	48	Sun N. L.		2	I, III.	125 25 9.4	6.7	5.8	7.8	2.7	9.0	6.90	29.010	+ 0.602	29.[illegible]
	49	Sun S. L.		2	VII, IX.	126 0 8.9	6.0	5.3	7.2	3.7	8.5	6.60	34.743	. .	35.[illegible]
29	50	Sun S. L.		4	I–IV.	125 35 14.7	11.3	9.1	12.1	9.5	13.8	11.75	31.686	. .	32.[illegible]
	51	Sun N. L.		4	VI–IX.	125 0 15.5	11.9	11.1	14.0	11.9	16.2	13.43	26.161	. .	26.[illegible]
	52	Venus S. L.		5	I–IX.	106 0 14.2	12.0	9.2	12.5	13.3	14.8	12.67	25.934	. .	26.[illegible]
	53	Venus N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	27.017	. .	27.[illegible]
	54	Nadir 8h. 25m.		3	. .	270 0 14.4	2.2	5.8	4.2	6.1	13.8	7.75	29.645	. .	. .
April 1	55	Sun N. L.		2	I, III.	123 55 9.8	4.6	4.5	7.3	3.2	10.1	6.58	34.620	+ 0.623	35.[illegible]
	56	Sun S. L.		2	VII, IX.	124 25 10.1	4.5	4.7	7.1	4.1	10.9	6.90	30.838	. .	31.[illegible]
	57	Mercury		5	I–IX.	117 45 11.0	6.9	4.4:	6.3	4.1	11.6	7.38	33.136	. .	33.[illegible]
	58	Venus S. L.		3	I–IX.	105 20 8.1	3.0	2.2	4.3	4.7	10.2	5.42	25.618	. .	26.[illegible]
	59	Venus N. C.		2	III, VII.	" " "	"	"	"	"	"	"	26.790	. .	27.[illegible]
	60	Moon N. L.		4	I–IV.	110 0 9.1	2.3	1.6	4.0	1.2	8.9	4.52	28.824	. .	29.[illegible]
	61	Moon S. L.		4	VI–IX.	110 30 9.9	3.1	2.6	3.0	2.7	8.9	5.03	26.093	. .	26.[illegible]
	62	ζ Cancri, (1st *)	8.5	3	II–VIII.	110 50 9.1	4.1	3.0	5.6	2.9	8.6	5.55	28.734	. .	29.[illegible]
	63	ζ Cancri, (2d *)		2	III, VII.	" " "	"	"	"	"	"	"	28.872	. .	29.[illegible]
	64	Weisse VIII, 381	9.5	3	III–VII.	116 15 9.1	3.5	3.7	5.0	1.6	9.9	5.47	26.830	. .	27.[illegible]

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	29.896	58.5	60.2	— 2 14.0	+ 16 42.6	37 39 33.6	+ 1 14 5.6		D.	Clouds while passing over first eight wires. Mercury in barometer oscillating.
2	. .	. .	. .	2 11.1	12.8	17 38 8.6 }	21 15 48.5			Cor. for defective illumination = — 1″.32.
3	29.410	58.5	57.1	2 45.5	12.8	17 37 34.2 }				
4	29.544	49.2	44.6	— 1 35.8	29.5	26 59 0.0	11 54 39.2	— 31.5		Division of circle under C obliterated. +0″.13 applied to mean of A, B, E, F.
5	. .	. .	. .	+ 2 16.6	19.1	18 12 43.5	20 40 55.7	40.0		
6	. .	. .	. .	— 16.7	19.4	18 30 11.0	20 23 28.2	41.8		
7	29.544	49.0	43.8	58.6	23.8	22 14 31.9	16 39 7.3	44.2		
8	. .	. .	. .	4 14.4	19.5	18 26 13.5	20 27 25.7	48.3		
9	. .	. .	. .	3 20.4	19.4	18 27 7.5	20 26 31.7	48.9		
10	. .	. .	. .	— 5 32.5	19.3	18 24 55.3	20 28 43.9	48.8		
11	. .	. .	. .	+ 2 14.4	19.5	18 32 42.4	+ 20 20 56.8	49.3		
12	29.544	48.7	42.9	23.7	2 28.1	68 43 0.1	— 29 49 20.9	47.3		
13	. .	. .	. .	1 22.1	1 11.8	51 2 41.3	12 9 2.1	56.1		
14	. .	. .	. .	1 5.7	1 11.8	51 2 24.9	12 8 45 7	56.2		
15	. .	. .	. .	47.7	2 30.0	68 58 26.8	30 4 47.6	55.9		
16	. .	. .	. .	1 33.8	4 17.3	77 36 0.3	— 38 42 21.1	57.9		
17	. .	. .	. .	+ 1 20.6	25.8	23 56 55.1	+ 14 56 44.1	67.8		
18	29.550	48.2	43.1	— 1 42.3	2 15.6	66 55 42.9	— 28 2 3.7	62.9		
19	. .	. .	. .	2 3.0	2 15.6	66 55 22.2	28 1 43.0	62.9		
20	. .	. .	. .	— 6 42.4	+ 2 15.1	66 50 42.3	— 27 57 3.1	66.5		
21	29.555	47.2	42.9	+ 47.0	— 1 10.7	309 24 48.4	+ 89 28 50.8	91.5		[at 10h. 49m. Hazy; very faint. Bar. and thermometer read
22										March 25. Mr. Clark put microscope F in order, it having been discovered that the wires rubbed.
23	29.980	43.7	38.1	— 1 23.5	+ 1 56.5	63 0 38.4	— 24 6 59.2	— 56.1		
24										Image rather unsteady.
25	. .	. .	. .	— 1 30.6	37.4	35 49 17.7 }			Ha.	
26	30.356	49.0	51.2	+ 36.5	38.2	36 21 24.3 }	+ 2 48 18.2			
27	. .	. .	52.4	— 1 6.0	+ 33.3	32 14 37.6	6 39 1.6			Very unsteady. Cor. for def. ill. = — 0″.05.
28	30.336	50.0	52.5	— 53.8	— 1 9.0	310 18 8.0	88 35 31.2	+ 86.8		
29	30.280	53.0	54.5	+ 1 2.4	+ 12.2	16 31 22.7 }	+ 22 22 0.3			Cor. for defective illumination = — 1″.32.
30	. .	. .	. .	1 36.1	12.2	16 31 56.4 }				
31	30.246	51.0	45.1	+ 1 2.6	2 2.1	64 13 10.8	— 25 19 31.6	— 24.5		
32	. .	. .	. .	— 3 47.9	1 59.5	64 43 23.6	24 49 44.4	28.9		Many small stars in field.
33	. .	. .	. .	+ 6 57.9	2 0.4	63 54 10.3	25 0 31.1	30.2		Recorded 15r. 039.
34	. .	. .	. .	+ 33.9	2 1.7	64 7 46.4	25 14 7.2	34.5		
35	30.254	50.0	44.9	— 3 50.6	2 1.2	64 3 21.4	— 25 9 42.2	34.6		
36	30.260	49.5	44.6	1 35.5	37.1	31 59 12.0	+ 6 54 27.2	47.4		
37	. .	. .	. .	— 1 32.9	+ 37.1	31 59 14.6	6 54 24.6	— 47.4		
38	. .	. .	. .	+ 1 44.0	— 1 38.9	300 55 17.5	+ 82 1 38.3	+ 74.2		March 27. In adjusting Microscope F on the
39	30.268	49.0	43.9	+ 21.8	+ 2 21.7	67 22 55.2	— 28 29 16.0	— 45.5		25th, by mistake it was set so as to read on
40	30.262	48.5	42.8	— 1 36.7	2 14.6	66 15 48.6	27 22 9.4	60.4		a division 5′ less than the other microscopes. After observation of Vesta, adjusted it properly.
41	. .	. .	. .	1 45.7	2 19.0	66 55 44.2	28 2 5.0	62.4		
42	. .	. .	. .	2 4.1	2 19.0	66 55 25.8	28 1 46.6	62.4		
43	. .	. .	. .	— 1 30.8	2 8.8	65 15 49.5	26 22 10.3	65.5		
44	. .	. .	. .	+ 1 7.6	48.7	39 12 6.3	0 18 27.1	72.1		
45	30.256	48.0	41.5	— 28.0	48.7	39 10 30.7	— 0 16 51.5	72.3		
46										
47	30.234	47.0	42.4	+ 1 38.5	25.5	23 7 15.2	+ 15 46 24.0			Observed through clouds.
48	. .	. .	. .	+ 11.0	36.1	35 25 54.0 }			D.	Through clouds, but pretty steady and well
49	30.231	51.0	58.5	— 2 46.1	36.9	35 57 57.4 }	3 11 43.5			defined.
50	30.210	52.5	61.2	— 1 12.7	36.1	35 34 35.1 }			Ha.	
51	. .	. .	. .	+ 1 42.5	35.3	35 2 31.2 }	3 35 6.0			
52	30.132	56.5	66.5	1 48.8	11.2	16 2 12.6 }				
53	. .	. .	. .	+ 1 14.8	11.2	16 1 38.6 }	22 51 44.3			Cor. for defective illumination = — 1″.32.
54										
55	. .	. .	. .	— 2 45.3	33.4	33 52 54.6 }			D.	
56	29.690	57.0	57.2	44.4	34.1	34 24 56.6 }	4 44 43.6			
57	29.696	57.7	58.1	— 1 57.5	26.1	27 43 35.9	11 10 3.3			Good. Circle division under C dim. — 0″.22
58	. .	. .	. .	+ 1 58.1	10.4	15 22 13.9 }				added for defective illumination.
59	29.704	59.0	59.7	1 21.2	+ 10.4	15 21 37.0 }	23 31 44.5			Cor. for defective illumination = — 1″.48.
60	. .	. .	. .	17.8	— 19 3.2	19 41 19.1 }				Very ragg'd. Bisect'n of int'val quite uncertain.
61	29.818	56.2	54.4	1 42.8	— 19 32.1	20 12 14.3 }	18 56 52.5			Very ragg'd. Bisect'n of int'val quite uncertain.
62	. .	. .	. .	20.3	+ 22.2	20 50 48.0	18 2 51.2	39.1		
63	29.918	53.0	48.5	16.0	22.2	20 50 43.7	18 2 55.5	39.1		Close double.
64	. .	.	. .	+ 1 19.8	+ 28.8	26 16 54.0	+ 12 36 45.2	— 41.1		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Transit wires.	MICROSCOPES. A.			B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corr
						°	′	″	″	″	″	″	″	″	r.	r.	r.
1865. April 1	1	35 Cancri	..	1	V.	108	50	8.6	3.7	2.5	4.1	0.8	8.6	4.72	28.706	+ 0.623	29.3
	2	Wiesse (2) VIII, 713	..	1	III.	"	"	"	"	"	"	"	"	"	21.178	..	21.8
	3	B. A. C. 2907	..	1	I.	"	"	"	"	"	"	"	"	"	30.151	..	30.7
	4	B. A. C. 2914	..	1	II.	"	"	"	"	"	"	"	"	"	24.378	..	25.0
	5	Weisse (2) VIII, 793	..	1	VIII.	"	"	"	"	"	"	"	"	"	24.519	..	25.1
	6	B. A. C. 2925	..	1	VIII.	"	"	"	"	"	"	"	"	"	29.307	..	29.9
	7	Lacaille 3546	..	5	I-IX.	159	19	67.5	61.2	64.7	64.8	59.1	65.7	63.83	34.321	..	34.9
	8	Anon. 9h. 3m. 16s.	7.5	1	VII.	157	15	8.9	2.7	3.9	5.2	0.9	6.2	4.63	26.543	..	27.1
	9	Lacaille 3718	..	5	I-IX.	"	"	"	"	"	"	"	"	"	28.643	..	29.2
	10	O. Arg. S. 9539	8.5	1	V.	158	9	68.7	62.0	64.8	65.2	59.5	65.8	4.33	20.067	..	20.6
	11	ω Leonis	..	5	I-IX.	119	15	10.1	4.1	2.8	5.7	0.2	7.5	5.07	29.930	..	30.4
	12	Lacaille 3976	..	5	I-IX.	158	35	11.2	6.0	8.2	9.5	3.5	8.9	7.88	33.451	..	34.0
	13	Weisse IX, 929	..	5	I-IX.	114	10	10.9	6.1	6.6	8.8	3.2	10.8	7.73	32.421	..	33.0
	14	Lacaille 4089	..	5	III-VII.	157	30	10.7	3.9	6.3	8.4	3.1	7.8	6.70	26.990	..	27.6
	15	Lacaille 4165	..	5	I-IX.	161	5	10.4	4.1	8.8	7.8	0.8	8.0	6.65	34.540	..	35.2
	16	Lacaille 4253	..	3	III-VII.	167	55	9.6	2.7	7.0	8.6	1.5	6.1	5.92	37.010	..	37.6
	17	Lacaille 4349	..	5	I-IX.	159	30	9.0	2.0	7.0	7.6	0.0	6.2	5.30	29.108	..	29.7
	18	Carrington 1611	10.0	1	VI.	47	5	9.4	3.5	6.7	9.2	2.5	9.9	6.87	23.259	..	23.9
	19	Carrington 1637	8.0	2	1, 5.	"	"	"	"	"	"	"	"	"	22.690	..	23.3
	20	O. Arg. N. 11518	..	5	III-VII.	69	15	9.5	5.5	8.5	11.0	4.8	12.3	8.60	27.194	..	27.8
	21	O. Arg. N. 11674	..	4	IV, 1, 5, VI.	56	25	8.0	3.6	5.9	9.7	2.5	10.3	6.67	26.642	..	27.2
	22	Vesta	..	5	I-IX.	112	45	7.7	3.2	4.1	6.3	0.7	7.1	4.85	25.009	..	25.6
	23	O. Arg. N. 12020	..	1	VI.	55	0	7.4	2.7	6.0	9.6	2.5	7.5	5.95	28.278	..	28.9
	24	Anon. 11h. 48m. 48s.	..	1	III.	117	49	68.0	63.1	62.4	65.3	59.3	65.4	63.92	35.208	..	35.8
	25	Hebe	..	1	VII.	114	0	8.0	4.5	5.0	8.5	2.0	7.6	5.93	30.098	..	30.7
	26	Nadir 12h. 45m.	..	5	..	270	0	8.4	3.0	3.5	7.8	0.6	7.5	5.13	29.541	..	..
3	27	Sun S. L.	..	4	I-IV.	123	40	13.2	9.0	9.0	10.1	6.2	12.6	10.02	32.819	+ 0.598	33.4
	28	Sun N. L.	..	2	VIII, IX.	123	10	13.0	9.0	8.8	12.0	7.0	12.6	10.40	36.686	..	37.2
4	29	Sun N. L.	..	2	I, III.	122	45	9.8	5.1	5.2	8.0	1.7	11.6	6.90	32.368	..	33.0
	30	Sun S. L.	..	1	VII.	123	15	8.9	3.5	4.0	6.8	1.3	9.4	5.65	28.676	..	29.2
	31	Polaris	..	4	..	40	20	8.9	4.0	7.0	9.1	3.5	11.6	7.35	30.995	..	31.5
6	32	1 (Hev.) Draconis	..	4	V.	47	0	9.2	0.8	5.7	4.5	3.8	10.8	5.80	30.836	..	31.4
	33	Lacaille 4076	..	3	III-VII.	155	39	69.1	60.0	62.1	62.2	59.7	68.0	63.52	25.535	..	26.1
	34	Lacaille 4183	..	5	I-IX.	156	55	10.9	1.9	3.8	4.6	1.2	9.7	5.35	42.440	..	43.0
	35	Moon N. L.	..	5	I-IX.	122	50	11.3	2.9	3.9	3.8	2.2	11.9	6.00	30.948	..	31.5
	36	Dorpat 1482	..	1	V.	120	45	12.8	4.8	5.5	6.2	4.5	12.8	7.77	34.108	..	34.7
	37	Weisse XI, 284	..	5	I-IX.	126	5	12.7	5.0	5.9	4.9	4.2	12.5	7.53	33.477	..	34.0
	38	Vesta	..	5	I-IX.	112	5	12.7	5.1	5.0	6.0	5.8	13.7	8.05	30.667	..	31.3
	39	Nadir 12h.	..	4	..	270	0	12.1	2.9	4.7	5.2	4.1	13.5	7.08	29.627	..	..
7	40	Moon N. L.	..	5	III-VII.	126	45	9.9	3.2	4.8	4.9	1.1	7.9	5.30	29.608	..	30.2
	41	Nadir 11h. 25m.	..	4	..	270	0	12.9	5.4	8.0	10.0	5.1	11.9	8.88	29.678	..	..
	42	υ Leonis	..	1	V.	129	0	13.1	6.9	6.9	9.0	4.0	10.3	8.37	33.791	..	34.3
8	43	Sun S. L.	..	2	I, III.	121	45	14.0	10.8	10.3	14.8	7.4	13.0	11.72	29.390	..	30.0
	44	Sun N. L.	..	2	VII-IX.	121	15	12.2	9.0	7.3	11.5	5.0	11.6	9.43	33.146	..	33.8
	45	Mercury	..	5	I-IX.	112	40	12.3	9.1	7.1	9.9	7.1	11.8	9.55	30.299	..	30.9
	46	Venus S. L.	..	5	I-IX.	104	10	10.9	6.7	5.7	9.6	5.1	11.8	8.30	25.375	..	25.9
	47	Nadir 8h. 20m.	..	5	..	270	0	10.0	2.4	3.7	5.9	2.7	9.3	5.57	29.586	..	..
	48	35 Lyncis	..	5	I-IX.	84	35	9.7	4.9	6.1	9.9	5.2	12.3	8.02	19.639	..	20.2
	49	Bessel Zone 494, 37	..	1	V.	85	15	9.0	4.3	6.2	10.2	5.1	11.8	7.77	22.745	..	23.3
	50	B. A. C. 3194	..	5	I-IX.	103	5	9.7	5.0	3.8	8.9	4.0	9.8	6.87	23.599	..	24.2
	51	β Cephei, S. P.	..	4	IV-I.	18	55	8.0	4.0	6.0	9.5	2.8	6.9	6.20	30.475	..	31.1
	52	Bessel Zone 280, 20	..	3	III-VII.	112	44	67.4	62.0	61.7	65.1	59.3	67.3	63.80	30.687	..	31.2
	53	B. A. C. 3497	..	2	II, IX.	168	30	9.8	2.2	5.5	8.0	0.1	7.7	5.55	29.470	..	30.0
	54	B. A. C. 3498	..	1	VII.	"	"	"	"	"	"	"	"	"	33.633	..	34.2
	55	α Ursæ Majoris, (Ref.)	..	5	III-VII.	293	35	10.9	4.8	7.8	7.5	3.8	8.6	7.23	30.338	..	30.9
	56	δ Leonis, (Ref.)	..	1	V.	252	20	10.9	4.2	7.3	9.9	4.3	11.0	7.93	25.376	..	25.9
	57	λ Draconis, (Ref.)	..	5	III-VII.	301	10	10.3	6.1	6.9	8.0	3.6	8.0	7.15	29.142	..	29.7
	58	2 Draconis, (Ref.)	6.5	4	III-VI.	"	"	"	"	"	"	"	"	"	29.403	..	30.0
	59	Moon N. L.	..	5	I-IX.	130	45	9.0	5.1	3.6	8.0	0.9	7.9	5.75	28.079	..	28.7
	60	κ Draconis, (Ref.)	..	5	V-IX.	301	40	10.7	5.8	6.5	7.9	2.8	8.2	6.98	34.210	..	34.8
	61	Lacaille 5311	..	3	III-VII.	167	25	9.7	5.2	7.2	11.5	3.1	7.0	7.28	22.208	..	22.8
	62	Anon. 12h. 52m. 38s.	..	3	III-VII.	164	15	9.7	5.8	7.2	10.3	3.1	7.9	7.33	24.825	..	25.4
	63	Lacaille 5407	..	3	III-VII.	"	"	"	"	"	"	"	"	"	19.031	..	19.6
	64	Lacaille 5503	..	3	V-IX.	"	"	"	"	"	"	"	"	"	30.556	..	31.1
	65	Nadir 12h. 30m.	..	3	..	270	0	9.4	5.1	4.6	10.7	2.0	9.4	6.87	29.622	..	..

Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
. .	. .	. .	+ 21.0	+ 19.9	18 50 45.6	+ 20 2 53.6	— 44.3	D.	
. .	. .	. .	+ 4 16.4	20.0	18 54 41.1	19 58 58.1	48.4		
. .	. .	. .	— 24.6	19.9	18 50 0.0	20 3 39.2	48.9		
. .	. .	. .	+ 2 36.1	20.0	18 53 0.8	20 0 38.5	49.1		
. .	. .	. .	2 32.9	20.0	18 52 57.6	20 0 41.6	49.0		
. .	. .	. .	+ 3.2	19.9	18 50 27.8	+ 20 3 11.4	49.5		
29.940	52.2	47.7	— 2 35.3	2 33.3	69 20 1.8	— 30 26 22.6	39.2		
. .	. .	. .	+ 1 29.0	2 18.8	67 18 52.4	28 25 13.2	46.1		
. .	. .	. .	22.5	2 18.8	67 17 45.9	28 24 6.7	47.1		
.	. .	. .	+ 4 51.5	2 25.8	68 17 21.6	— 29 23 42.4	48.4		
29.963	52.0	47.0	— 17.2	32.8	29 15 20.6	+ 9 38 18.6	60.5		
. .	. .	. .	2 8.0	2 28.0	68 35 27.8	— 29 41 48.6	55.9		
. .	. .	. .	— 1 35.1	26.2	24 8 58.8	+ 14 44 40.4	67.8		
29.955	51.5	46.7	+ 1 14.6	2 20.6	67 33 41.9	— 28 40 2.7	60.7		
. .	. .	. .	— 2 42.1	2 48.8	71 5 13.3	32 11 34.1	63.1		
29.950	51.2	46.6	— 3 59.2	4 25.7	77 55 36.4	39 1 57.2	65.1		
. .	. .	. .	+ 7.9	+ 2 35.5	69 32 48.7	— 30 39 9.5	69.2		
. .	. .	. .	3 12.9	— 54.4	317 7 25.3	+ 81 46 13.9	93.3		Whole rev. record'd, 27. Reobserved Apr. 9, 1866.
. .	. .	. .	3 29.2	54.4	317 7 41.6	81 45 57.6	94.0		Whole rev. record'd, 27. Reobserved Apr. 9, 1866.
29.984	50.5	45.4	1 8.7	22.3	339 15 55.0	59 37 44.2	90.7		Rather unsteady.
. .	. .	. .	1 25.9	— 39.0	326 25 53.5	72 27 45.7	93.6		
29.990	50.5	45.3	2 17.0	+ 24.7	22 47 46.5	16 5 52.7			
. .	. .	. .	+ 35.2	— 41.2	324 59 59.9	73 53 39.3	94.3		
. .	. .	. .	— 3 3.0	+ 31.0	27 47 31.9	11 6 7.3	— 84.5		Circle division under C partially obliterated.
30.000	49.5	43.5	22.0	26.3	24 0 10.2	14 53 29.0			Faint. Bisection uncertain.
30.180	54.5	58.3	1 48.0	33.6	33 38 55.6	5 30 43.0		Ha.	Faint; through clouds.
. .	. .	. .	3 46.5	32.9	33 6 56.8				
. .	. .	. .	— 1 34.1	32.5	32 44 5.3	5 53 35.2		D.	
30.368	56.0	59.5	+ 23.8	+ 33.3	33 16 2.7				Cloud at Wire IX.
30.364	57.0	60.3	— 48.7	— 1 8.0	310 18 10.6	88 35 28.6	+ 89.3		At 1h. 12m. 33s., 13m. 3s., 14m. 33s., and 15m. 33s. Barometer and thermometer read at 1h. 22m.
30.143	62.7	61.2	— 43.3	— 53.3	316 58 29.2	+ 81 55 10.0	— 79.8		
30.146	63.0	61.6	+ 20.9	+ 2 6.0	65 44 10.4	— 26 50 31.2	59.9		
. .	. .	. .	— 6 48.6	+ 2 12.7	66 50 29.4	— 27 56 50.2	63.6		
. .	. .	61.0	48.3	— 13 47.2	32 35 30.5	+ 6 18 8.7			Very steady and well defined.
30.144	63.0	60.5	2 27.3	+ 34.0	30 43 14.5	8 10 24.7	78.3		Double; brighter of the two.
. .	. .	. .	2 7.6	41.7	36 3 41.6	2 49 57.6	81.3		
30.135	62.7	60.6	39.3	+ 23.2	22 4 51.9	16 48 47.3			Very bad night; cloudy and windy. Image faint and unsteady.
30.200	55.5	52.2	6.5	— 16 40.3	36 28 18.5	+ 2 25 20.7		Ha.	
30.212	55.5	52.0	2 17.4	+ 47.2	38 58 38.1	— 0 4 58.9	82.0		
. .	. .	. .	0.8	31.9	31 45 42.8	+ 7 23 55.4		D.	
30.394	56.0	52.0	1 55.8	31.2	31 13 44.8				
30.372	58.0	53.6	— 27.9	+ 20.5	22 40 2.1	16 13 37.1			—0″.57 added for defective illumination.
30.355	57.5	55.1	+ 2 6.5	— 12.1	14 12 2.7	24 41 36.6			Hazy; not well defined; a little unsteady.
30.340	56.5	50.0	5 6.4	5.5	354 40 8.9	44 13 30.3	61.1		
. .	. .	. .	3 28.4	— 4.8	355 18 31.3	43 35 7.9	64.8		
30.354	55.5	48.2	+ 3 2.0	+ 13.8	13 8 22.6	25 45 16.6	— 64.5		
. .	. .	. .	— 36.3	— 2 51.1	288 51 38.8	69 57 59.6	+ 85.0		
. .	. .	. .	40.1	+ 24.8	22 44 48.5	+ 16 8 50.7	— 67.6		
. .	. .	.	3.0	4 43.3	78 34 45.8	— 39 41 6.6	62.3		
30.370	53.5	46.3	2 12.3	4 42.4	78 32 35.6	— 39 38 56.4	62.4		
. .	. .	. .	— 29.8	+ 26.0	23 35 3.4	+ 62 28 42.7	92.4		
30.364	51.5	45.3	+ 2 6.0	— 18.9	342 21 55.0	21 15 34.3	84.0		
. .	. .	. .	+ 7.5	+ 36.0	31 10 50.6	70 4 29.9	95.5		
.	. .	. .	— 0.7	+ 36.1	31 10 42.5	+ 70 4 21.8	95.6		Cloud at wire VII.
30.380	51.5	44.2	+ 41.4	— 19 28.6	40 26 18.5	— 1 32 39.3			
30.385	51.0	45.7	— 2 31.7	+ 36.8	31 38 12.0	+ 70 31 51.3	93.5		
. .	. .	45.0	+ 3 45.0	4 22.5	77 33 14.7	— 38 39 35.5	83.3		
.	. .	. .	2 23.1	3 29.1	74 20 59.5	35 27 30.3	83.2		
30.392	51.0	44.0	+ 5 24.5	3 30.1	74 24 1.9	35 30 22.7	83.0		
. .	. .	. .	— 36.1	+ 3 29.2	74 18 0.4	— 35 34 21.2	82.4		Badly troubled by clouds all the evening. Very good; Saturn behind clouds.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Transit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrd.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
April 1	1	35 Cancri	..	1	V.	108 50 8.6	3.7	2.5	4.1	0.8	8.6	4.72	28.706	+ 0.623	29.329
	2	Wiesse (2) VIII, 713	..	1	III.	" " "	"	"	"	"	"	"	21.178	..	21.812
	3	B. A. C. 2907	..	1	I.	" " "	"	"	"	"	"	"	30.151	..	30.785
	4	B. A. C. 2914	..	1	II.	" " "	"	"	"	"	"	"	24.378	..	25.013
	5	Weisse (2) VIII, 793	..	1	VIII.	" " "	"	"	"	"	"	"	24.519	..	25.154
	6	B. A. C. 2925	..	1	VIII.	" " "	"	"	"	"	"	"	29.307	..	29.942
	7	Lacaille 3546	..	5	I-IX.	159 19 67.5	61.2	64.7	64.8	59.1	65.7	63.83	34.321	..	34.956
	8	Anon. 9h. 3m. 16s.	7.5	1	VII.	157 15 8.9	2.7	3.9	5.2	0.9	6.2	4.63	26.543	..	27.178
	9	Lacaille 3718	..	5	I-IX.	" " "	"	"	"	"	"	"	28.643	..	29.278
	10	O. Arg. S. 9539	8.5	1	V.	158 9 68.7	62.0	64.8	65.2	59.5	65.8	4.33	20.067	..	20.690
	11	ω Leonis	..	5	I-IX.	119 15 10.1	4.1	2.8	5.7	0.2	7.5	5.07	29.930	..	30.549
	12	Lacaille 3976	..	5	I-IX.	158 35 11.2	6.0	8.2	9.5	3.5	8.9	7.88	33.451	..	34.069
	13	Weisse IX, 929	..	5	I-IX.	114 10 10.9	6.1	6.6	8.8	3.2	10.8	7.73	32.421	..	33.038
	14	Lacaille 4089	..	5	III-VII.	157 30 10.7	3.9	6.3	8.4	3.1	7.8	6.70	26.990	..	27.617
	15	Lacaille 4165	..	5	I-IX.	161 5 10.4	4.1	8.8	7.8	0.8	8.0	6.65	34.540	..	35.179
	16	Lacaille 4253	..	3	III-VII.	167 55 9.6	2.7	7.0	8.6	1.5	6.1	5.92	37.010	..	37.641
	17	Lacaille 4349	..	5	I-IX.	159 30 9.0	2.0	7.0	7.6	0.0	6.2	5.30	29.108	..	29.746
	18	Carrington 1611	10.0	1	VI.	47 5 9.4	3.5	6.7	9.2	2.5	9.9	6.87	23.259	..	23.890
	19	Carrington 1637	8.0	2	I, 5.	" " "	"	"	"	"	"	"	22.690	..	23.312
	20	O. Arg. N. 11518	..	5	III-VII.	69 15 9.5	5.5	8.5	11.0	4.8	12.3	8.60	27.194	..	27.804
	21	O. Arg. N. 11674	..	4	IV, I, 5, VI.	56 25 8.0	3.6	5.9	9.7	2.5	10.3	6.67	26.642	..	27.255
	22	Vesta	..	5	I-IX.	112 45 7.7	3.2	4.1	6.3	0.7	7.1	4.85	25.009	..	25.625
	23	O. Arg. N. 12020	..	1	VI.	55 0 7.4	2.7	6.0	9.6	2.5	7.5	5.95	28.278	..	28.897
	24	Anon. 11h. 48m. 48s.	..	1	III.	117 49 68.0	63.1	62.4	65.3	59.3	65.4	63.92	35.208	..	35.844
	25	Hebe	..	1	VII.	114 0 8.0	4.5	5.0	8.5	2.0	7.6	5.93	30.098	..	30.701
	26	Nadir 12h. 45m.	..	5	..	270 0 8.4	3.0	3.5	7.8	0.6	7.5	5.13	29.541	..	..
3	27	Sun S. L.	..	4	I-IV.	123 40 13.2	9.0	9.0	10.1	6.2	12.6	10.02	32.819	+ 0.598	33.451
	28	Sun N. L.	..	2	VIII, IX.	123 10 13.0	9.0	8.8	12.0	7.0	12.6	10.40	36.686	..	37.333
4	29	Sun N. L.	..	2	I, III.	122 45 9.8	5.1	5.2	8.0	1.7	11.6	6.90	32.368	..	33.006
	30	Sun S. L.	..	1	VII.	123 15 8.9	3.5	4.0	6.8	1.3	9.4	5.65	28.676	..	29.241
	31	Polaris	..	4	..	40 20 8.9	4.0	7.0	9.1	3.5	11.6	7.35	30.995	..	31.556
6	32	1 (Hev.) Draconis	..	4	V.	47 0 9.2	0.8	5.7	4.5	3.8	10.8	5.80	30.836	..	31.392
	33	Lacaille 4076	..	3	III-VII.	155 39 69.1	60.0	62.1	62.2	59.7	68.0	63.52	25.535	..	26.138
	34	Lacaille 4183	..	5	I-IX.	156 55 10.9	1.9	3.8	4.6	1.2	9.7	5.35	42.440	..	43.051
	35	Moon N. L.	..	5	I-IX.	122 50 11.3	2.9	3.9	3.8	2.2	11.9	6.00	30.948	..	31.543
	36	Dorpat 1482	..	1	V.	120 45 12.8	4.8	5.5	6.2	4.5	12.8	7.77	34.108	..	34.706
	37	Weisse XI, 284	..	5	I-IX.	126 5 12.7	5.0	5.9	4.9	4.2	12.5	7.53	33.477	..	34.074
	38	Vesta	..	5	I-IX.	112 5 12.7	5.1	5.0	6.0	5.8	13.7	8.05	30.667	..	31.257
	39	Nadir 12h.	..	4	..	270 0 12.1	2.9	4.7	5.2	4.1	13.5	7.08	29.627	..	..
7	40	Moon N. L.	..	5	III-VII.	126 45 9.9	3.2	4.8	4.9	1.1	7.9	5.30	29.608	..	30.205
	41	Nadir 11h. 25m.	..	4	..	270 0 12.9	5.4	8.0	10.0	5.1	11.9	8.88	29.678	..	..
	42	υ Leonis	..	1	V.	129 0 13.1	6.9	6.9	9.0	4.0	10.3	8.37	33.791	..	34.389
8	43	Sun S. L.	..	2	I, III.	121 45 14.0	10.8	10.3	14.8	7.4	13.0	11.72	29.390	..	30.026
	44	Sun N. L.	..	2	VII-IX.	121 15 12.2	9.0	7.3	11.5	5.0	11.6	9.43	33.146	..	33.698
	45	Mercury	..	5	I-IX.	112 40 12.3	9.1	7.1	9.9	7.1	11.8	9.55	30.299	..	30.890
	46	Venus S. L.	..	5	I-IX.	104 10 10.9	6.7	5.7	9.6	5.1	11.8	8.30	25.375	..	25.961
	47	Nadir 8h. 20m.	..	5	..	270 0 10.0	2.4	3.7	5.9	2.7	9.3	5.57	29.586	..	..
	48	35 Lyncis	..	5	I-IX.	84 35 9.7	4.9	6.1	9.9	5.2	12.3	8.02	19.639	..	20.213
	49	Bessel Zone 494, 37	..	1	V.	85 15 9.0	4.3	6.2	10.2	5.1	11.8	7.77	22.745	..	23.343
	50	B. A. C. 3194	..	5	I-IX.	103 5 9.7	5.0	3.8	8.9	4.0	9.8	6.87	23.599	..	24.185
	51	β Cephei, S. P.	..	4	IV-I.	18 55 8.0	4.0	6.0	9.5	2.8	6.9	6.20	30.475	..	31.158
	52	Bessel Zone 280, 20	..	3	III-VII.	112 44 67.4	62.0	61.7	65.1	59.3	67.3	63.80	30.687	..	31.322
	53	B. A. C. 3497	..	2	II, IX.	168 30 9.8	2.2	5.5	8.0	0.1	7.7	5.55	29.470	..	30.097
	54	B. A. C. 3498	..	1	VII.	" " "	"	"	"	"	"	"	33.633	..	30.227
	55	α Ursæ Majoris, (Ref.)	..	5	III-VII.	293 35 10.9	4.8	7.8	7.5	3.8	8.6	7.23	30.338	..	30.950
	56	δ Leonis, (Ref.)	..	1	V.	252 20 10.9	4.2	7.3	9.9	4.3	11.0	7.93	25.376	..	25.974
	57	λ Draconis, (Ref.)	..	5	III-VII.	301 10 10.3	6.1	6.9	8.0	3.6	8.0	7.15	29.142	..	29.761
	58	2 Draconis, (Ref.)	6.5	4	III-VI.	" " "	"	"	"	"	"	"	29.403	..	30.022
	59	Moon N L.	..	5	I-IX.	130 45 9.0	5.1	3.6	8.0	0.9	7.9	5.75	28.079	..	28.672
	60	κ Draconis, (Ref.)	..	5	V-IX.	301 40 10.7	5.8	6.5	7.9	2.8	8.2	6.98	34.210	..	34.847
	61	Lacaille 5311	..	3	III-VII.	167 25 9.7	5.2	7.2	11.5	3.1	7.0	7.28	22.208	..	22.814
	62	Anon. 12h. 52m. 38s.	..	3	III-VII.	164 15 9.7	5.8	7.2	10.3	3.1	7.9	7.33	24.825	..	25.430
	63	Lacaille 5407	..	3	III-VII.	" " "	"	"	"	"	"	"	19.031	..	19.656
	64	Lacaille 5503	..	3	V-IX.	" " "	"	"	"	"	"	"	30.556	..	31.154
	65	Nadir 12h. 30m.	..	3	..	270 0 9.4	5.1	4.6	10.7	2.0	9.4	6.87	29.622	..	..

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	+ 21.0	+ 19.9	18 50 45.6	+ 20 2 53.6	— 44.3	D.	
2	. .	. .	. .	+ 4 16.4	20.0	18 54 41.1	19 58 58.1	48.4		
3	. .	. .	. .	— 24.6	19.9	18 50 0.0	20 3 39.2	48.9		
4	. .	. .	. .	+ 2 36.1	20.0	18 53 0.8	20 0 38.5	49.1		
5	. .	. .	. .	2 32.9	20.0	18 52 57.6	20 0 41.6	49.0		
6	. .	. .	. .	+ 3.2	19.9	18 50 27.8	+ 20 3 11.4	49.5		
7	29.940	52.2	47.7	— 2 35.3	2 33.3	69 20 1.8	— 30 26 22.6	39.2		
8	. .	. .	. .	+ 1 29.0	2 18.8	67 18 52.4	28 25 13.2	46.1		
9	. .	. .	. .	22.5	2 18.8	67 17 45.9	28 24 6.7	47.1		
10	.	. .	. .	+ 4 51.5	2 25.8	68 17 21.6	— 29 23 42.4	48.4		
11	29.963	52.0	47.0	— 17.2	32.8	29 15 20.6	+ 9 38 18.6	60.5		
12	. .	. .	. .	2 8.0	2 28.0	68 35 27.8	— 29 41 48.6	55.9		
13	. .	. .	. .	— 1 35.1	26.2	24 8 58.8	+ 14 44 40.4	67.8		
14	29.955	51.5	46.7	+ 1 14.6	2 20.6	67 33 41.9	— 28 40 2.7	60.7		
15	. .	. .	. .	— 2 42.1	2 48.8	71 5 13.3	32 11 34.1	63.1		
16	29.950	51.2	46.6	— 3 59.2	4 25.7	77 55 36.4	39 1 57.2	65.1		
17	. .	. .	. .	+ 7.9	+ 2 35.5	69 32 48.7	— 30 39 9.5	69.2		
18	. .	. .	. .	3 12.9	— 54.4	317 7 25.3	+ 81 46 13.9	93.3		Whole rev. record'd, 27. Reobserved Apr. 9, 1866.
19	. .	. .	. .	3 29.2	54.4	317 7 41.6	81 45 57.6	94.0		Whole rev. record'd, 27. Reobserved Apr. 9, 1866.
20	29.984	50.5	45.4	1 8.7	22.3	339 15 55.0	59 37 44.2	90.7		Rather unsteady.
21	. .	. .	. .	1 25.9	— 39.0	326 25 53.5	72 27 45.7	93.6		
22	29.990	50.5	45.3	2 17.0	+ 24.7	22 47 46.5	16 5 52.7			
23	. .	. .	. .	+ 35.2	— 41.2	324 59 59.9	73 53 39.3	94.3		
24	. .	. .	. .	— 3 3.0	+ 31.0	27 47 31.9	11 6 7.3	— 84.5		Circle division under C partially obliterated.
25	30.000	49.5	43.5	22.0	26.3	24 0 10.2	14 53 29.0			Faint. Bisection uncertain.
26										
27	30.180	54.5	58.3	1 48.0	33.6	33 38 55.6	5 30 43.0		Ha.	Faint; through clouds.
28	. .	. .	. .	3 46.5	32.9	33 6 56.8				
29	. .	. .	. .	— 1 34.1	32.5	32 44 5.3	5 53 35.2		D.	
30	30.368	56.0	59.5	+ 23.8	+ 33.3	33 16 2.7				Cloud at Wire IX.
31	30.364	57.0	60.3	— 48.7	— 1 8.0	310 18 10.6	88 35 28.6	+ 89.3		At 1h. 12m. 33s., 13m. 3s., 14m. 33s., and 15m. 33s. Barometer and thermometer read at 1h. 22m.
32	30.143	62.7	61.2	— 43.3	— 53.3	316 58 29.2	+ 81 55 10.0	— 79.8		
33	30.146	63.0	61.6	+ 20.9	+ 2 6.0	65 44 10.4	— 26 50 31.2	59.9		
34	. .	. .	. .	— 6 48.6	+ 2 12.7	66 50 29.4	— 27 56 50.2	63.6		
35	. .	. .	61.0	48.3	— 13 47.2	32 35 30.5	+ 6 18 8.7			Very steady and well defined.
36	30.144	63.0	60.5	2 27.3	+ 34.0	30 43 14.5	8 10 24.7	78.3		Double; brighter of the two.
37	. .	. .	. .	2 7.6	41.7	36 3 41.6	2 49 57.6	81.3		
38	30.135	62.7	60.6	39.3	+ 23.2	22 4 51.9	16 48 47.3			Very bad night; cloudy and windy.
39										Image faint and unsteady.
40	30.200	55.5	52.2	6.5	— 16 40.3	36 28 18.5	+ 2 25 20.7		Ha.	
41										
42	30.212	55.5	52.0	2 17.4	+ 47.2	38 58 38.1	— 0 4 58.9	82.0		
43	. .	. .	. .	0.8	31.9	31 45 42.8	+ 7 23 55.4		D.	
44	30.394	56.0	52.0	1 55.8	31.2	31 13 44.8				
45	30.372	58.0	53.6	— 27.9	+ 20.5	22 40 2.1	16 13 37.1			—0″.57 added for defective illumination.
46	30.355	57.5	55.1	+ 2 6.5	— 12.1	14 12 2.7	24 41 36.6			Hazy; not well defined; a little unsteady.
47										
48	30.340	56.5	50.0	5 6.4	5.5	354 40 8.9	44 13 30.3	61.1		
49	. .	. .	. .	3 28.4	— 4.8	355 18 31.3	43 35 7.9	64.8		
50	30.354	55.5	48.2	+ 3 2.0	+ 13.8	13 8 22.6	25 45 16.6	— 64.5		
51	. .	. .	. .	— 36.3	— 2 51.1	288 51 38.8	69 57 59.6	+ 85.0		
52	. .	. .	. .	40.1	+ 24.8	22 44 48.5	+ 16 8 50.7	— 67.6		
53	. .	. .	. .	3.0	4 43.3	78 34 45.8	— 39 41 6.6	62.3		
54	30.370	53.5	46.3	2 12.3	4 42.4	78 32 35.6	— 39 38 56.4	62.4		
55	. .	. .	. .	— 29.8	+ 26.0	23 35 3.4	+ 62 28 42.7	92.4		
56	30.364	51.5	45.3	+ 2 6.0	— 18.9	342 21 55.0	21 15 34.3	84.0		
57	. .	. .	. .	+ 7.5	+ 36.0	31 10 50.6	70 4 29.9	95.5		
58	. .	. .	. .	— 0.7	+ 36.1	31 10 42.5	+ 70 4 21.8	95.6		Cloud at wire VII.
59	30.380	51.5	44.2	+ 41.4	— 19 28.6	40 26 18.5	— 1 32 39.3			
60	30.385	51.0	45.7	— 2 31.7	+ 36.8	31 38 12.0	+ 70 31 51.3	95.5		
61	. .	. .	45.0	+ 3 45.0	4 22.5	77 33 14.7	— 38 39 35.5	83.3		
62	.	. .	. .	2 23.1	3 29.1	74 20 59.5	35 27 30.3	83.2		
63	30.392	51.0	44.0	+ 5 24.5	3 30.1	74 24 1.9	35 30 22.7	83.0		
64	. .	. .	. .	— 36.1	+ 3 29.2	74 18 0.4	— 35 34 21.2	82.4		Badly troubled by clouds all the evening.
65										Very good; Saturn behind clouds.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
April 18	1	B. Z. 406, 68		3	III-VII.	98 5 10.1	3.0	2.1	3.0	5.4	11.5	5.85	29.808	+ 0.613	30.415
	2	ν Antliæ		1	V.	157 50 11.1	3.0	3.1	4.7	2.8	9.1	5.63	30.038	. .	30.651
	3	Weisse 664		5	I-IX.	123 50 11.4	3.0	3.4	3.9	3.9	11.7	6.22	28.712	. .	29.323
	4	54 Leonis		5	I-IX.	103 25 11.7	3.9	5.5	4.8	5.7	12.6	7.37	22.751	. .	29.352
	5	Lacaille 4600		3	III-VII.	156 35 12.0	2.6	2.6	5.1	3.6	9.9	5.97	24.632	. .	25.250
	6	Vesta		5	I-IX.	112 30 12.0	3.3	2.8	4.2	4.8	12.0	6.52	28.849	. .	29.455
	7	Lacaille 4766	8.0	1	V.	167 15 13.6	5.0	6.3	8.8	6.5	12.2	8.73	21.126	. .	21.739
	8	Weisse XI, 785		3	III-VII.	114 45 11.0	3.3	3.0	3.3	4.3	12.0	6.15	33.269	. .	33.880
	9	o Virginis, (Ref.)		5	I-IX.	240 34 71.0	58.7	62.9	63.8	63.6	72.8	65.47	28.359	. .	28.976
	10	η Virginis, (Ref.)		2	VI, VIII.	231 9 71.3	59.0	64.0	65.2	62.9	73.3	65.95	25.984	. .	26.581
	11	κ Draconis, (Ref.)		3	IV-VI.	301 40 10.9	0.8	2.5	0.2	1.8	8.6	4.13	33.972	. .	34.593
	12	Nadir 12h. 55m.		5		270 0 10.4	0.9	1.4	3.6	3.0	10.3	4.93	29.543	. .	. .
	13	Weisse XIII, 81		5	I-IX.	131 39 70.5	59.7	61.6	60.7	60.8	67.6	63.48	30.140	. .	30.754
	14	Saturn S. L.		3	I-IX.	136 40 10.8	2.7	2.0	2.8	3.9	9.6	5.30	31.409	. .	32.027
	15	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	31.961	. .	32.576
22	16	Sun N. L.		2	III, V.	116 14 68.7	61.0	59.8	61.0	60.3	66.1	62.82	28.898	. .	29.524
	17	Sun S. L.		2	VII, IX.	116 45 9.0	0.9	(1.9)	1.3	0.4	8.1	3.34	25.579	. .	26.145
	18	Nadir 11h. 10m.		4		270 0 8.6	2.0	2.1	4.5	2.9	9.1	4.87	29.548	. .	. .
24	19	Sun S. L.		4	I-IV.	116 5 8.9	4.3	3.8	6.0	1.6	7.1	5.28	25.143	. .	25.692
	20	Sun N. L.		4	VI-IX.	115 35 8.4	4.9	3.9	7.0	2.8	9.9	6.15	28.535	. .	29.201
	21	Venus S. L.		5	I-IX.	104 15 9.5	5.5	5.5	8.2	6.0	9.3	7.33	28.914	. .	29.515
	22	Lacaille 4218	7.5	3	III-VII.	156 50 9.9	0.0	1.6	2.8	0.4	6.9	3.60	32.356	. .	32.974
	23	B. A. C. 3576	7.0	3	III-VII.	129 10 14.9	5.0	4.9	6.9	6.0	13.0	8.45	30.208	. .	30.821
	24	B. A. C. 3638	6.0	3	III-VII.	155 35 15.3	6.0	8.0	9.0	6.5	13.0	9.63	30.078	. .	30.696
	25	Lacaille 4382	7.5	3	V-IX.	154 0 16.0	6.3	9.8	8.9	6.6	12.9	10.08	27.826	. .	28.507
	26	b^3 Hydræ		3	III-VII.	148 15 16.5	5.9	9.2	8.7	6.9	12.5	9.95	25.420	. .	26.036
	27	χ Leonis	6.5	3	III-VII.	120 50 15.0	6.0	7.0	7.8	6.9	13.0	9.28	30.839	. .	31.451
	28	Lacaille 4693	7.5	3	III-VII.	152 30 15.1	6.0	9.1	9.5	6.8	13.1	9.93	32.559	. .	33.176
	29	Vesta		3	III-VII.	112 40 15.6	6.7	8.0	8.8	8.2	14.1	10.23	26.287	. .	26.897
	30	ν Leonis	6.5	3	III-VII.	128 55 15.4	6.7	7.0	8.0	8.0	14.0	9.85	24.224	. .	24.837
	31	Lacaille 5101	7.0	3	III-VII.	154 50 14.3	7.2	8.0	9.5	7.0	12.1	9.68	27.650	. .	28.268
	32	O. Arg. S. 12101	7.5	1	V.	" " "	"	"	"	"	"	"	28.059	. .	28.672
	33	Lacaille 5198	7.0	3	V-IX.	158 10 15.0	7.1	10.0	11.0	7.0	12.3	10.40	30.641	. .	31.324
	34	Lacaille 5244	7.0	3	III-VII.	156 0 15.5	7.0	8.8	9.5	7.0	12.4	10.03	26.358	. .	26.976
	35	Lacaille 5295	8.0	3	III-VII.	158 45 15.0	8.0	10.1	12.0	6.9	12.6	10.77	35.538	. .	36.157
	36	B. A. C. 4363	7.5	3	III-VII.	126 35 14.9	7.0	8.3	8.2	7.1	13.0	9.75	23.474	. .	24.087
	37	Lacaille 5405		3	III-VII.	158 35 14.5	7.9	10.0	11.9	7.0	12.0	10.55	31.354	. .	31.972
	38	Polaris, S. P.		3	4-2.	37 30 15.0	7.1	10.4	12.0	9.0	13.8	11.22	29.159	. .	29.774
	39	Nadir 13h. 15m.		3		270 0 15.5	7.2	9.2	11.2	8.5	14.8	11.07	29.733	. .	. .
25	40	Sun N. L.		2	I, III.	115 15 10.8	6.4	4.0	7.9	5.0	12.0	7.68	27.792	. .	28.327
	41	Sun S. L.		2	VII, IX.	115 50 9.6	4.0	2.0	5.8	2.7	11.6	6.05	33.707	. .	34.382
	42	Venus S. L.		3	V, VI, VIII.	104 25 9.7	4.6	3.6	7.4	5.2	7.2	6.28	29.471	. .	30.125
	43	Weisse X, 76	9.0	1	V.	116 50 9.8	1.0	1.1	2.1	0.9	11.0	4.32	23.670	. .	24.283
	44	Rumker 3172	8.5	5	I-IX.	117 20 10.4	1.0	. .	2.0	0.9	10.0	4.45	29.257	. .	29.865
	45	Weisse X, 664		5	I-IX.	123 50 10.2	1.4	2.7	3.6	0.3	12.1	5.05	28.733	. .	29.344
	46	B. A. C. 3719		5	I-IX.	162 15 10.8	1.5	4.1	5.8	0.9	10.8	5.65	35.686	. .	36.315
	47	Bessel Zone 353, 21	7.5	1	V.	104 0 10.8	2.2	3.0	3.9	2.9	12.0	5.80	25.967	. .	26.580
	48	O. Arg. N. 11518		5	III-VII.	69 15 11.0	3.0	6.7	8.0	6.0	11.0	7.62	27.426	. .	28.026
	49	Vesta		5	I-IX.	112 45 12.7	3.3	4.0	5.1	3.7	12.9	6.95	30.501	. .	31.108
	50	O. Arg. N. 11901	9.5	1	V.	57 35	2.8	5.7	7.8	6.3	15.7	8.56	27.455	. .	28.068
	51	Weisse XI, 785		5	I-IX.	114 45 9.8	2.9	3.3	4.0	2.8	12.0	5.80	33.262	. .	33.868
	52	O. Arg. N. 12337	9.0	1	V.	53 30 9.8	2.0	4.6	6.5	3.8	12.8	6.58	31.569	. .	32.182
	53	O. Arg. N. 12397	6.5	1	V.	" " "	"	"	"	"	"	"	30.384	. .	30.997
	54	Lacaille 5080	8.0	5	I-IX.	157 45 9.8	0.6	2.6	3.6	0.6	8.0	4.20	31.361	.	31.988
	55	Nadir 12h. 25m.		4		269 59 69.6	63.3	61.3	59.5	61.1	70.5	64.22	29.529	. .	. .
	56	B. A. C. 4278	6.0	3	V-IX.	156 25 8.9	0.4	1.4	3.0	0.1	7.7	3.58	26.212	. .	26.894
	57	Lacaille 5367	7.0	5	I-IX.	" " "	"	"	"	"	"	"	28.980	. .	29.606
	58	O. Arg. S. 12662	8.0	3	III-VII.	" " "	"	"	"	"	"	"	37.831	. .	38.449
	59	ζ Virginis, (Ref.)		3	I-IX.	231 9 70.3	57.3	63.9	66.2	61.7	73.0	65.40	24.499	. .	25.112
	60	Saturn S. L.		3	I-IX.	136 30 10.0	4.1	4.0	4.5	2.8	10.0	5.90	33.710	. .	34.327
	61	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	34.295	. .	34.910
	62	Polaris		3	2-4.	40 20 10.8	6.2	9.1	11.2	6.0	14.0	9.55	30.878	. .	31.489
26	63	Sun N. L.		4	I-IV.	114 55 10.6	7.7	5.8	9.2	5.9	13.7	8.82	26.486	. .	27.034
	64	Sun S. L.		4	VI-IX.	115 30 10.1	7.1	4.0	7.5	5.1	12.8	7.77	32.458	. .	33.124
	65	Venus S. L.		3	III-VII.	104 35 10.1	6.0	4.4	8.7	6.2	13.0	8.07	27.963	. .	28.572

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 13.0	+ 8.1	8 5 0.9	+ 30 48 38.3	— 78.5	D.	
2	30.000	60.7	63.0	— 20.4	2 18.4	67 52 3.6	— 28 58 24.4	64.8		
3	. .	. .	. .	+ 21.2	38.2	33 51 5.6	+ 5 2 33.6	76.8		
4	. .	. .	. .	20.3	13.6	13 25 41.2	+ 25 27 58.0	84.0		Double; took the brightest.
5	30.015	60.7	59.5	2 28.7	2 11.6	66 39 46.2	— 27 46 7.0	73.4		Whole rev. recorded 27.
6	. .	. .	. .	17.1	23.7	22 30 47.3	+ 16 22 51.9			
7	30.026	60.8	61.0	+ 4 18.6	4 9.0	77 23 36.3	— 38 29 57.1	75.5		Ext. thermometer supposed 59°.
8	. .	. .	58.3	— 2 1.5	+ 26.4	24 43 31.0	+ 14 10 8.2	86.2		Ext. thermometer noted with special care.
9	. .	. .	. .	+ 32.1	— 32.3	330 35 5.2	9 28 44.5	85.6		
10	. .	. .	. .	+ 1 47.0	— 46.1	321 11 6.8	0 4 46.1	84.3		
11	30.040	60.0	59.0	— 2 23.8	+ 35.3	31 38 15.6	+ 70 31 54.9	96.4		Barometer and thermometer read at 12h. 40m.
12										
13	30.054	60.0	61.0	23.6	50.8	41 40 30.6	— 2 46 51.4	82.1		
14	. .	. .	. .	1 3.5	59.6	46 40 1.4 }	— 7 46 13.6			
15	30.072	60.0	62.0	— 1 20.7	59.6	46 39 44.2 }				
16	. .	. .	. .	+ 14.9	23.8	26 15 41.5 }	+ 12 22 4.2			
17	29.788	63.7	66.6	2 0.7	24.4	26 47 28.4 }				Division under C nearly obliterated. —0″.60 applied to mean of five.
18										
19	. .	. .	. .	2 14.9	24.4	26 7 44.5 }	13 1 49.5		Ha.	April 22. When attempting to take Venus, my head hit the end of the telescope. The concussion seems to have disturbed the inclination of the declination wires, but not to have sensibly affected the nadir point.—D.
20	30.270	57.5	62.0	25.0	+ 23.8	25 35 54.9 }				
21	30.258	58.5	64.5	+ 15.2	— 19.4	14 15 3.1	+ 24 38 36.1			
22	30.266	60.5	56.5	— 1 33.1	+ 2 14.6	66 50 45.1	— 27 57 5.9	63.0		
23	. .	. .	. .	25.7	47.3	39 10 30.0	0 16 50.8	72.5		
24	. .	. .	. .	— 21.8	2 7.3	65 36 55.1	26 43 15.9	67.8		
25	. .	. .	. .	+ 46.7	1 58.7	64 2 55.4	25 9 16.2	68.4		
26	30.272	59.5	54.9	+ 2 4.1	1 33.9	58 18 47.9	— 19 25 8.7	71.5		
27	. .	. .	. .	— 45.4	34.8	30 49 58.6	+ 8 3 40.6	81.1		
28	. .	. .	. .	— 1 39.4	1 51.5	62 30 22.0	— 23 36 42.8	75.4		
29	. .	. .	. .	+ 1 37.2	24.4	22 42 11.8	+ 16 11 27.4			
30	30.280	59.0	53.2	2 41.7	47.2	38 58 38.7	— 0 4 59.5	82.5		
31	30.280	58.0	51.1	54.2	2 4.4	64 53 8.2	25 59 29.0	80.6		
32	. .	. .	. .	+ 41.6	2 4.4	64 52 55.6	25 59 16.4	80.6		
33	. .	. .	. .	— 41.5	2 25.6	68 11 54.5	29 18 15.3	81.1		
34	. .	. .	. .	+ 1 34.7	2 11.4	66 3 56.1	27 10 16.9	81.0		
35	. .	. .	. .	— 3 12.7	2 29.7	68 44 27.7	— 29 50 48.5	80.7		
36	. .	. .	. .	+ 3 5.1	43.7	36 38 58.5	+ 2 14 40.7	83.9		
37	. .	. .	. .	— 1 1.7	+ 2 28.8	68 36 37.6	— 29 42 58.4	— 80.5		
38	30.284	56.5	49.2	+ 7.1	— 1 16.6	307 29 1.7	+ 88 35 22.5	+ 95.6		
39										
40	. .	. .	. .	+ 52.4	+ 23.0	25 16 23.0 }	13 21 21.5		D.	
41	30.326	64.0	71.9	— 2 17.2	+ 23.6	25 48 12.4 }				
42	30.302	64.5	71.9	— 3.9	— 19.9	14 24 42.4	24 28 56.8			
43	30.231	63.0	59.8	+ 2 59.0	+ 29.2	26 53 32.5	12 0 6.7	— 73.5		
44	. .	. .	. .	4.2	29.8	27 20 38.4	11 33 0.8	75.7		Division under C obliterated. —1″.13 applied to mean of A, B, E, F.
45	. .	. .	. .	+ 20.5	38.7	33 51 4.2	+ 5 2 35.0	77.4		
46	. .	. .	58.3	— 3 17.7	2 57.8	72 14 45.7	— 33 21 6.5	68.9		
47	. .	. .	. .	+ 1 47.1	+ 14.4	14 2 7.3	+ 24 51 31.9	85.1		
48	30.239	62.0	57.7	+ 1 1.8	— 21.9	339 15 47.5	59 37 51.7	96.2		
49	. .	. .	. .	— 34.7	+ 24.2	22 44 56.4	16 8 42.8			Circle reading recorded 116°.
50	. .	. .	. .	+ 1 0.5	— 36.7	327 35 32.3	71 18 6.9	100.2		Division under A obliterated. —0″.32 applied to mean of C, D, E, F.
51	30.231	61.5	57.0	— 21.1	+ 26.6	24 43 31.3	14 10 7.9	87.0		
52	. .	. .	. .	1 8.3	— 42.9	323 28 15.3	75 25 23.9	100.9		
53	. .	. .	. .	31.2	— 42.9	323 28 52.4	+ 75.24 46.8	100.8		
54	. .	. .	56.4	— 1 2.3	+ 2 20.6	67 46 22.5	— 28 52 43.3	79.9		
55										
56	30.239	61.0	55.5	+ 1 37.2	2 12.5	66 28 53.1	27 35 13.9	80.9		Recorded 23r.
57	. .	. .	. .	+ 12.4	2 12.3	66 27 28.2	27 33 49.0	80.7		Recorded 29r.
58	. .	. .	. .	— 4 24.5	+ 2 11.8	66 22 50.8	— 27 29 11.6	80.5		
59	. .	. .	54.3	+ 2 33.0	— 46.8	321 11 51.6	+ 0 5 30.8	— 80.7		
60	30.234	60.7	54.8	— 2 15.5	+ 1 0.4	46 28 50.8 }	— 7 35 2.5			
61	. .	. .	. .	2 33.7	+ 1 0.4	46 28 32.6 }				
62	30.174	60.0	68.2	— 46.6	— 1 6.5	310 18 16.4	+ 88 35 22.8	+ 96.1	Ha	
63	. .	. .	. .	+ 1 32.9	+ 22.4	24 57 4.1 }	13 40 40.7			
64	30.156	62.0	74.9	— 1 37.8	+ 22.9	25 28 52.9 }				
65	30.132	63.5	76.0	+ 44.7	— 20.3	14 35 32.4	+ 24 18 6.8			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correct'd.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
April 26	1	Vesta		3	III–VII.	112 49 70.0	59.8	60.9	61.5	61.0	71.4	64.10	34.392	+ 0.613	35.002
	2	Nadir 12h. 5m.													
	3	B. A. C. 4171	7.0	3	III–VII.	135 25 15.8	5.1	6.9	5.5	6.9	15.6	9.30	28.148	+ 0.254	28.403
	4	O. Arg. S. 12288	9.0	1	V.	156 30 15.8	5.1	7.9	8.0	5.1	14.1	9.33	26.002		26.256
	5	B. A. C. 4278	7.0	5	I–IX.	" " "	"	"	"	"	"	"	36.294		36.561
	6	Anon. 12h.	8.0	3	III–VII.	156 5 15.7	4.3	7.0	7.0	4.7	13.1	8.63	29.443		29.702
	7	Lacaille 5367	7.5	5	I–IX.	156 25 16.5	6.7	8.0	8.8	6.0	14.6	10.10	29.425		29.692
	8	Lacaille 5382	7.5	1	VII.	" " "	"	"	"	"	"	"	15.730		15.990
	9	O. Arg. S. 12662	8.5	1	V.	" " "	"	"	"	"	"	"	38.295		38.549
	10	Polaris, S. P.		3		37 30 16.1	6.0	10.0	11.0	8.9	16.2	11.37	29.624		29.891
	11	Weisse XIII, 461	9.0	1	IV.	121 45 15.1	4.9	6.0	6.5	4.6	13.2	8.38	30.950		31.204
	12	Weisse XIII, 472	9.0	1	VII.	" " "	"	"	"	"	"	"	37.423		37.673
	13	Saturn S. L.		5	I–IX.	136 25 15.8	7.1	7.9	8.0	7.0	15.1	10.15	27.580		27.830
	14	Saturn N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	28.089		28.344
27	15	Venus S. L.		4	IV, VI, VIII, IX.	104 50 11.0	6.1	5.6	7.7	6.5	15.1	8.67	33.775		34.024
	16	Lacaille 4115		5	I–IX.	158 49 70.9	60.3	61.7	63.1	58.9	71.0	64.32	34.939		35.205
	17	Lalande 19869	7.5	3	III–VII.:	96 45 12.2	4.6	4.7	6.6	6.2	17.0	8.55	24.122		24.370
	18	22 Leonis Minoris	6.0	4	VI–IX.	" " "	"	"	"	"	"	"	29.152		29.388
	19	29 Leonis Minoris	7.0	3	III–VII.	92 45 12.8	2.2	2.7	5.8	3.3	15.7	7.08	26.099		26.346
	20	37 Leonis Minoris		5	I–IX.	96 10 12.9	4.5	4.5	6.1	5.3	17.0	8.38	24.092		24.330
	21	Lacaille 4488	8.5	3	III–VII.	161 59 71.7	60.5	62.9	58.4	64.9	72.0	65.03	32.352		32.612
	22	Lacaille 4596		5	I–IX.	158 40 11.8	1.7	3.8	4.8	0.8	11.8	5.78	27.855		28.124
	23	Anon. 11h. 5m. 21s.	10.0	1	VI.	69 30 10.0	0.2	4.0	4.4	3.0	5.4	4.50	27.527		27.772
	24	Vesta		5	I–IX.	112 49 70.0	59.3	60.1	61.4	60.1	71.9	63.80	28.643		28.899
	25	Nadir 11h. 50m.		4		269 59 67.0	55.0	57.0	58.8	57.1	68.5	60.57	29.766		
	26	Weisse XII, 34		3	III–VII.	119 24 67.0	56.0	55.9	57.2	55.0	66.4	59.58	29.237		29.489
	27	Dorpat 1636	6.0	3	III–VII.	122 50 12.0	1.0	2.0	4.2	0.5	13.1	5.47	30.178		30.431
	28	κ Draconis, (Ref.)		5	V–IX.	301 40 12.8	2.1	4.0	3.1	1.7	12.7	6.07	34.257		34.563
	29	Weisse XII, 857		1	V.	142 30 13.0	3.3	4.8	5.5	2.0	12.7	6.88	30.827		31.081
	30	Polaris, S. P.		5	5–1.	37 30 13.1	3.0	6.7	9.1	5.1	15.2	8.70d	29.576		29.834
	31	Saturn N. L.		2	III–VII.	136 25 13.3	5.2	5.7	6.5	3.7	13.2	7.93	30.973		31.229
	32	Saturn S. L.		3	I–IX.	" " "	"	"	"	"	"	"	30.409		30.668
28	33	Sun S. L.		3	II–IV.	114 50 15.3	9.9	8.1	11.1	8.2	17.9	11.75	29.183	+ 0.236	29.430
	34	Sun N. L.		4	VI–IX.	114 20 15.0	9.9	2.0	11.6	1.0	17.9	9.57	32.532		32.744
	35	Venus S. L.		4	VI–IX.	105 0 14.9	8.5	8.4	9.9	8.8	16.7	11.20	27.500		27.734
	36	Lacaille 4600	7.0	5	I–IX.	156 35 14.6	3.4	5.9	5.7	4.0	13.0	7.77	25.036		25.285
	37	Vesta		3	III–VII.	112 55 14.5	2.9	5.8	4.8	5.2	14.9	8.02	31.916		32.149
	38	B. A. C. 3921	7.0	2	I, V.	157 20 13.9	3.2	5.9	6.0	3.3	12.2	7.42	23.831		24.083
	39	B. A. C. 3922	7.0	2	III, VII.	" " "	"	"	"	"	"	"	24.101		24.345
	40	Lacaille 4773	8.0	2	VIII, IX.	" " "	"	"	"	"	"	"	38.390		38.643
	41	B. A. C. 3975		3	III–VII.	134 50 15.5	5.1	6.0	6.1	5.1	14.7	8.75	32.719		32.956
	42	B. A. C. 3988	8.0	3	V–IX.	158 25 15.9	5.4	9.0	8.5	5.4	14.0	9.70	33.206		33.451
	43	Nadir		3		270 0 16.1	4.3	7.8	8.1	6.2	16.5	9.83	30.078		
	44	Polaris, S. P.		3	2–4.	37 30 16.8	6.3	10.6	12.7	9.0	17.2	12.10	29.702		29.939
	45	Anon. 13h. 16m. 55s.	9.0	1	V.	153 20 17.0	6.1	10.0	9.0	5.2	15.3	10.43	34.959		35.195
	46	Lacaille 5582		1	V.	154 45 15.2	5.1	8.0	7.2	4.5	13.9	8.98	29.290		29.526
	47	Saturn S. L.		5	I–IX.	136 25 15.6	7.0	8.0	7.2	6.1	15.0	9.82	33.435		33.675
	48	Saturn N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	33.949		34.188
29	49	Weisse XIII, 131		5	I–IX.	133 50 11.6	2.2	4.0	6.1	0.9	12.1	6.15	29.748	+ 0.272	30.022
	50	Weisse XIII, 169	8.0	1	V.	" " "	"	"	"	"	"	"	15.412		15.684
	51	B. A. C. 4496		1	VII	128 59 71.7	60.7	61.4	64.2	58.2	70.0	64.37	28.914		29.184
	52	O. Arg. N. 13847		2	VI, VII.	51 35 13.0	6.2	10.0	4.1	7.5	16.5	9.55	20.073		20.302
	53	Saturn N. L.		1	V.	136 20 11.8	4.1	5.9	6.5	1.9	11.0	6.87	36.848		37.120
	54	Saturn S. L.		2	VII, IX.	" " "	"	"	"	"	"	"	36.160		36.433
	55	α Draconis, (Ref.)		4	I–IV.	296 5 11.4	1.9	4.1	4.0	0.9	8.9	5.20	25.742		26.069
	56	α Draconis		4	VI–IX.	63 55 11.8	3.5	7.2	12.0	3.0	12.9	8.40	34.184		34.401
	57	θ Bootis, (Ref.)		4	I–IV.	283 35 11.8	3.2	7.9	9.0	3.5	11.3	7.78	30.766		31.072
	58	θ Bootis		2	VII, IX.	76 25 12.3	5.0	8.9	12.3	5.0	14.1	9.60	29.285		29.514
	59	Nadir 14h. 45m.		3		270 0 12.7	4.0	6.0	9.1	2.9	12.0	7.78	29.978		
May 1	60	Lacaille 4576	9.0	1	V.	168 25 12.0	4.8	9.3	12.1	1.9	7.6	7.95	31.221		31.493
	61	Lacaille 4667		3	III–VII.	167 35 15.0	8.3	12.9	15.1	6.0	11.1	11.40	31.465		31.745
	62	Lacaille 4766		3	III–VII.	167 15 14.5	9.0	12.7	15.8	5.8	11.2	11.50	21.769		22.049
	63	B. A. C. 3969	6.0	3	VII–IX.	160 35 14.5	7.0	12.8	12.3	3.0	10.0	9.93	27.550		27.837
	64	B. A. C. 4016	7.0	3	III–VII.	163 10 14.8	8.1	11.2	13.9	4.8	11.1	10.65	30.591		30.870
	65	Lacaille 4993	7.0	1	V.	167 0 14.7	9.2	12.9	17.1	6.1	11.2	11.87	20.070		20.342

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.088	65.0	61.0	— 2 36.6	+ 24.0	22 47 51.5	+ 16 5 47.7		Ha.	Immediately after this observation adjusted the wires for horizontality, which may have changed the nadir. Unfortunately, I forgot to get a nadir before making the adjustment.
2										
3	30.090	64.5	61.0	+ 50.0	57.9	45 26 57.2	— 6 33 18.0	— 83.5		
4	. .	. .	. .	+ 1 57.2	2 10.9	66 34 17.4	27 40 38.2	80.7		
5	. .	. .	. .	— 3 25.4	2 10.4	66 28 54.3	27 35 15.1	80.7		
6	. .	. .	. .	+ 9.3	2 8.3	66 7 26.2	27 13 47.0	80.7		
7	. .	. .	. .	9.6	2 10.4	66 27 30.1	27 33 50.9	80.5		
8	. .	. .	. .	+ 7 18.6	2 11.1	66 34 39.8	27 41 0.6	80.5		
9	. .	. .	. .	— 4 27.7	+ 2 9.9	66 22 52.3	— 27 29 13.1	— 80.4		
10	. .	. .	. .	+ 3.7	— 1 14.5	307 29 0.5	+ 88 35 21.3	+ 96.2		At 1h. 10m. 18s., 10m. 48s., and 11m. 18s.
11	. .	. .	. .	— 37.7	+ 35.5	31 45 6.1	7 8 33.1	— 81.4		
12	. .	. .	. .	— 4 0.2	35.4	31 41 43.5	+ 7 11 55.7	81.4		
13	30.100	64.0	59.4	+ 1 7.7	59.5	46 27 17.3	— 7 33 30.2			
14	. .	. .	. .	+ 51.8	+ 59.5	46 27 1.4				
15	30.085	67.7	77.0	— 2 6.0	— 20.7	14 47 41.9	+ 24 5 57.3		D.	
16	30.049	69.5	66.8	— 2 43.1	+ 2 24.1	68 49 45.3	— 29 56 6.1	59.2		
17	. .	. .	. .	+ 2 56.3	+ 6.7	6 48 11.5	+ 32 5 27.7	80.3		
18	. .	. .	. .	19.2	6.7	6 45 34.4	32 8 4.8	80.5		
19	. .	. .	. .	1 54.4	2.8	2 47 4.2	36 6 35.0	83.9		
20	. .	. .	. .	+ 2 57.5	6.2	6 13 12.0	+ 32 40 27.2	85.0		
21	30.060	68.5	64.0	— 1 21.8	2 52.6	72 1 35.8	— 33 7 56.6	68.8		
22	. .	. .	. .	+ 58.7	+ 2 24.5	68 43 28.9	— 29 49 49.7	72.3		
23	. .	. .	. .	1 9.7	— 21.2	339 30 53.0	+ 59 22 46.2	96.7		Uncertain.
24	30.061	67.8	62.8	34.8	+ 24.0	22 51 2.6	16 2 36.6			
25										
26	30.063	67.2	62.0	+ 16.0	32.1	29 25 47.6	9 27 51.6	86.6		
27	. .	. .	. .	— 13.5	36.8	32 50 28.7	6 3 10.5	86.0		Not apparently double.
28	. .	. .	. .	2 22.9	35.1	31 38 15.2	70 31 57.6	99.1		
29	30.068	66.5	61.8	— 33.8	+ 1 14.2	52 30 47.2	— 13 37 8.0	— 82.0		
30	. .	. .	. .	+ 5.2	— 1 14.3	307 28 59.6	+ 88 35 20.4	+ 96.5		
31	. .	. .	. .	— 38.5	+ 59.2	46 25 28.6	— 7 31 58.2			
32	30.063	66.0	60.8	— 20.9	59.2	46 25 46.2				
33	30.098	67.5	77.0	+ 17.8	22.1	24 50 51.6	+ 14 18 40.8		Ha.	
34	. .	. .	. .	— 1 25.9	+ 21.6	24 19 5.2				
35	30.090	68.5	77.7	+ 1 11.0	— 20.9	15 1 1.3	+ 23 52 37.9			
36	30.028	69.5	66.2	+ 2 27.6	+ 2 9.7	66 39 45.0	— 27 46 5.8	— 72.5		
37	. .	. .	. .	— 1 7.3	23.9	22 54 24.6	+ 15 19 14.6			
38	. .	. .	. .	+ 3 5.2	2 14.7	67 25 27.3	— 28 31 48.1	75.8		
39	. .	. .	. .	+ 2 57.0	2 14.7	67 25 19.1	28 31 39.9	75.8		
40	. .	. .	. .	— 4 30.6	2 13.9	67 17 50.7	28 24 11.5	75.8		
41	. .	. .	. .	1 32.5	56.1	44 49 32.3	5 55 53.1	81.6		
42	30.020	68.5	65.1	— 1 48.0	+ 2 21.7	68 25 43.4	— 29 32 4.2	— 77.3		
43										
44	30.004	67.0	63.1	+ 1.9	— 1 13.8	307 29 0.2	+ 88 35 21.0	+ 96.8		
45	. .	. .	. .	— 2 42.6	+ 1 52.3	63 19 20.1	— 24 25 40.9	— 79.4		
46	. .	. .	. .	+ 14.8	1 59.7	64 47 23.4	25 53 44.2	78.7		
47	. .	. .	. .	— 1 55.1	58.8	46 24 13.5	7 30 26.3			
48	30.004	66.5	63.1	2 11.1	58.8	46 23 57.5				
49	. .	. .	. .	— 0.7	55.0	43 51 0.4	4 57 21.2	82.0	D.	
50	29.877	65.0	55.5	+ 7 28.2	55.3	43 58 29.6	5 4 50.4	81.8		
51	. .	. .	. .	25.5	+ 46.5	39 1 16.3	— 0 7 37.1	80.6		
52	. .	. .	. .	+ 5 3.6	— 45.4	321 39 27.7	+ 77 14 11.5	91.3		
53	. .	. .	. .	— 3 42.9	+ 59.3	46 22 23.2	— 7 28 54.8			Circle reading recorded 136° 25′; whole number revolutions recorded, 26.
54	. .	. .	. .	— 3 21.4	59.3	46 22 44.7				
55	. .	. .	. .	+ 2 3.0	+ 28.2	26 7 36.4	+ 65 1 15.7	83.5		
56	29.888	63.0	54.1	— 2 17.8	— 28.2	333 52 22.4	16 1 16.8			
57	. .	. .	. .	— 33.6	+ 13.9	13 34 48.0	52 28 27.3	76.8		
58	. .	. .	. .	+ 15.2	— 13.9	346 25 10.9	+ 52 28 28.3			
59										
60	29.968	56.5	49.4	— 46.7	+ 4 36.5	78 28 57.7	— 39 35 18.5	69.6	Ha.	
61	. .	. .	. .	— 54.7	4 18.4	77 38 35.1	38 44 55.9	71.5		
62	. .	. .	. .	+ 4 8.9	4 13.6	77 23 34.0	38 29 54.8	73.7		
63	. .	. .	. .	+ 1 7.7	2 44.3	70 39 1.9	31 45 22.7	76.0		
64	29.976	56.0	48.2	— 27.2	3 10.6	73 12 54.0	34 19 14.8	76.8		
65	. .	. .	. .	+ 5 2.3	+ 4 9.6	77 9 23.7	— 38 15 44.5	— 77.1		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
May 1	1	Anon. 12h. 21m. 33s.	9.0	1	V.	164 0 14.8	8.0	12.9	14.3	5.2	11.2	11.07	26.860	+ 0.272	27.132
	2	Anon. 12h. 22m. 8s.	9.0	1	VII.	" " "	"	"	"	"	"	"	19.365	. .	19.645
	3	Anon. 12h. 22m. 47s.	9.0	1	IX.	" " "	"	"	"	"	"	"	38.348	. .	38.649
	4	O. Arg. S. 12288 . .	8.0	3	III–VII.	156 30 15.1	9.0	13.0	15.5	5.2	11.1	11.48	26.157	. .	26.434
	5	Anon. 12h. 36m. 26s.	8.5	3	III–VII.	163 30 15.1	9.0	13.0	15.0	5.2	10.9	11.37	27.995	. .	28.274
	6	Anon. 12h. 45m. 23s.	8.0	1	VI.	167 30 15.3	9.9	13.4	16.9	6.5	11.0	12.17	40.948	. .	41.223
	7	Lacaille 5311 . .	7.5	1	IX.	" " "	"	"	"	"	"	"	31.980	. .	32.256
	8	Anon. 12h. 47m. 20s.	9.0	1	IX.	" " "	"	"	"	"	"	"	18.485	. .	18.791
	9	Lacaille 5363 . .	7.5	3	III–VII.	167 40 14.9	9.0	13.1	16.0	6.0	10.9	11.65	24.440	. .	24.720
	10	B. A. C. 4383 . . .	7.0	3	V–IX.	163 55 15.2	9.0	14.9	15.9	6.0	12.1	12.18	22.979	. .	23.264
	11	Polaris, S. P. . .	. .	3	4–2.	37 30 14.8	10.0	14.0	18.0	6.5	12.7	12.67	29.588	. .	29.862
	12	Nadir	. .	3	. .	270 0 15.2	9.3	11.8	16.0	5.1	12.7	11.68	30.099	. .	. .
	13	Saturn S. L. . . .	. .	3	I–IX.	136 20 14.8	11.8	12.0	15.3	6.6	11.6	12.02	32.558	. .	32.834
	14	Saturn N. L. . . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	33.088	. .	33.362
2	15	Sun N. L. . . .	. .	4	I–IV.	113 5 12.0	5.4	8.0	10.8	1.8	7.6	7.60	28.552	+ 0.267	28.829
	16	Sun S. L. . . .	. .	4	VI–IX.	113 35 14.5	9.6	11.0	15.1	5.8	11.3	11.22	25.406	. .	25.649
	17	Weisse (2) X, 257 .	8.5	3	I–IX.	84 15 12.6	5.8	9.9	11.7	7.0	12.8	9.97	22.647	. .	22.892
	18	Weisse (2) X, 258 .	8.2	2	III, VII.	" " "	"	"	"	"	"	"	22.887	. .	23.140
	19	O. Arg. S. 10666 .	8.0:	1	VI.	158 35 12.1	5.1	8.8	10.7	2.3	8.1	7.85	15.315	. .	15.584
	20	Lacaille 4387 . .	6.3	1	VI.	164 50 12.4	4.5	7.8	10.2	3.5	8.4	7.80	31.609	. .	31.878
	21	Anon. 10h. 42m. 43s.	8.5	3	III–VII.	158 40 11.2	4.1	7.8	9.1	1.2	6.7	6.68	34.870	. .	35.143
	22	O. Arg. S. 10912 .	8.0	1	VIII.	" " "	"	"	"	"	"	"	26.210	. .	26.490
	23	Bessel Zone 353, 21 .	7.0	1	VI.	104 0 11.0	3.0	6.8	7.8	2.9	8.6	6.68	26.390	. .	26.655
	24	Lacaille 4566 . .	. .	1	V.	165 55 11.0	3.9	6.5	9.2	1.1	6.9	6.43	26.411	. .	26.678
	25	Weisse XI, 284 . .	8.3	3	III–VII.	126 0 11.3	3.5	6.0	6.0	2.0	7.1	5.98	24.246	. .	24.513
	26	Anon. 11h. 23m. 0s.	9.3	3	IV–VI.	56 40 9.6	1.2	8.2	10.7	3.6	10.9	7.37	25.272	. .	25.530
	27	B. A. C. 3940 . . .	6.2:	1	V.	121 59 70.1	61.6	64.2	65.6	59.6	66.2	64.55	26.360	. .	26.627
	28	B. A. C. 4016 . . .	5.7	1	VII.	163 10 11.9	3.8	7.9	9.9	2.2	8.1	7.30	30.481	. .	30.756
	29	Saturn S. L. . . .	. .	3	I–IX.	136 15 11.6	6.5	8.0	11.1	4.0	9.2	8.40	25.652	. .	25.923
	30	Saturn N. L. . . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	26.184	. .	26.453
	31	Nadir	. .	4	. .	270 0 10.8	2.9	6.8	9.7	1.9	7.9	6.67	29.944	. .	. .
3	32	Sun S. L.	. .	3	IV–VI.	113 20 8.4	2.5	2.2	5.0	1.0	7.7	4.47	30.178	. .	30.444
	33	Venus S. L. . . .	. .	4	I, III, VII, IX.	106 25 9.2	4.8	3.5	5.8	3.9	9.2	6.07	28.532	. .	28.786
4	34	Sun S. L. . . .	. .	4	I–IV.	113 5 9.3	3.3	4.9	6.2	0.8	7.9	5.40	34.794	. .	35.071
	35	Sun N. L. . . .	. .	4	VI–IX.	112 30 11.7	4.8	5.7	7.5	4.0	9.4	7.18	28.584	. .	28.827
	36	Venus S. L. . . .	. .	5	I–IX.	106 45 11.0	6.8	6.9	8.1	5.3	10.5	8.10	28.571	. .	28.828
6	37	Sun S. L.	. .	4	I–IV.	112 30 11.9	4.0	4.7	6.1	5.2	13.1	7.50	32.771	. .	33.047
	38	Sun N. L. . . .	. .	4	VI–IX.	111 55 12.2	5.2	4.0	6.2	5.8	13.2	7.77	26.524	. .	26.768
	39	Nadir 3h. 10m. . .	. .	4	. .	269 59 70.9	56.0	61.6	59.6	60.2	70.8	63.18	29.832	. .	. .
	40	O. Arg. N. 12020 .	7.5	3	IV–VI.	54 59 70.4	58.1	64.1	62.1	65.0	73.0	65.45	29.007	. .	29.264
	41	B. A. C. 4025 . . .	7.7	3	III–VII.	129 35 13.4	1.1	1.4	2.0	3.6	14.8	6.05	30.935	. .	31.202
	42	B. A. C. 4063 . . .	7.3	5	I–IX.	133 35 13.6	1.8	3.0	2.3	3.9	15.2	6.63	26.697	. .	26.966
	43	Lacaille 5071 . .	. .	4	I, III, V, IX.	160 29 73.5	59.0	64.3	61.2	61.2	73.6	65.47	30.690	. .	30.975
	44	Moon N. L. . . .	. .	5	I–IX.	133 19 70.8	58.0	59.6	58.1	60.8	72.2	63.25	27.235	. .	27.504
	45	Weisse XII, 463 .	7.2	1	V.	125 50 14.1	1.4	3.5	0.0	4.0	14.2	6.20	24.143	. .	24.410
	46	Weisse XII, 728 .	7.5	3	III–VII.	141 9 73.2	58.8	62.0	60.3	61.9	71.6	64.63	28.538	. .	28.807
	47	Anon. 12h. 52m. 39s.	8.3	3	III–VII.	164 20 14.2	0.9	4.5	2.7	3.6	14.2	6.68	34.009	. .	34.283
	48	Lacaille 5407 . .	. .	3	III–VII.	" " "	"	"	"	"	"	"	28.220	. .	28.494
	49	Lacaille 5503 . .	. .	5	I–IX.	" " "	"	"	"	"	"	"	39.675	. .	39.960
	50	Anon. 13h. 20m. 17s.	. .	1	VI.	163 50 14.8	1.1	5.9	2.2	3.2	13.9	6.85	32.080	. .	32.349
	51	Anon. 13h. 27m. 33s.	. .	1	V.	" " "	"	"	"	"	"	"	33.495	. .	33.762
	52	Saturn S. L. . . .	. .	3	I–IX.	136 10 13.9	1.5	3.5	0.2	4.4	14.0	6.25	26.725	. .	26.996
	53	Saturn N. L. . . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	27.250	. .	27.519
	54	Nadir 14h. 0m. . .	. .	4	. .	269 59 73.6	58.4	62.1	61.3	63.3	75.3	65.67	29.925	. .	. .
8	55	Sun N. L. . . .	. .	4	I–IV.	111 25 12.3	5.4	5.0	7.0	4.0	12.2	7.65	31.872	. .	32.147
	56	Sun S. L.	. .	4	VI–IX.	111 55 12.6	5.9	6.0	8.9	5.1	13.8	8.72	28.658	. .	28.902
11	57	Sun S. L.	. .	4	I–IV.	111 10 14.1	7.0	6.9	9.0	6.4	14.4	9.63	32.705	. .	32.979
	58	Sun N. L.	. .	4	VI–IX.	110 35 14.1	5.5	7.2	7.9	5.4	12.6	8.78	26.292	. .	26.536
	59	Polaris	. .	3	2–4.	40 20 14.9	8.8	13.0	15.7	6.7	16.0	12.52	31.070	. .	31.336
	60	Venus S. L. . . .	. .	3	III–VII.	109 50 14.5	9.0	6.1	13.8	9.0	13.5	10.98	32.929	. .	33.193
12	61	Sun N. L.	. .	4	I–IV.	110 20 14.7	7.8	9.0	11.9	5.0	12.1	10.08	26.497	. .	26.771
	62	Sun S. L.	. .	4	VI–IX.	110 55 13.0	7.2	7.0	11.6	4.0	11.0	8.97	32.930	. .	33.174
	63	*a* Canis Majoris . .	. .	3	IV–VI.	145 25 15.1	5.7	6.9	8.1	4.0	12.6	8.73	30.791	. .	31.059
	64	Nadir 12h. 0m. . .	. .	3	. .	270 0 15.5	5.5	9.7	11.3	5.1	13.4	10.08	30.053	. .	. .

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	+ 1 29.8	+ 3 21.8	74 5 2.6	— 35 11 23.4	— 78.9	Ha.	
2	. .	. .	. .	+ 5 24.2	3 22.6	74 8 58.0	35 15 18.8	78.9		
3	. .	. .	. .	— 4 30.8	3 20.4	73 59 0.6	35 5 21.4	78.9		
4	. .	. .	. .	+ 1 51.7	2 14.2	66 34 17.3	27 40 38.1	80.0		
5	. .	. .	. .	+ 54.0	3 15.4	73 34 20.7	34 40 41.5	79.3		
6	29.986	54.5	47.1	— 5 51.4	4 16.5	77 28 37.2	38 34 58.0	79.0		
7	. .	. .	. .	— 1 11.6	4 18.0	77 33 18.5	38 39 39.3	79.0		
8	. .	. .	. .	+ 5 50.9	4 20.5	77 40 23.5	38 46 44.3	79.0		
9	. .	. .	. .	2 45.3	4 23.0	77 47 19.9	38 53 40.7	79.0		
10	. .	. .	. .	3 30.9	+ 3 21.4	74 2 4.4	— 35 8 25.2	— 79.1		
11	. .	. .	. .	+ 4.3	— 1 16.3	307 29 0.6	+ 88 35 21.4	+ 97.5		
12	29.980	54.0	46.2							
13	. .	. .	. .	— 1 28.7	+ 1 0.7	46 19 44.0	— 7 25 56.5			
14	. .	. .	. .	— 1 45.3	1 0.7	46 19 27.4				
15	29.984	53.5	45.4	+ 36.7	21.1	23 6 5.4	+ 15 31 42.0		N.	
16	. .	. .	. .	2 16.2	+ 21.7	23 37 49.1				
17	30.013	55.2	58.8	3 42.8	— 5.8	354 18 46.9	44 34 52.3	— 86.2		
18	. .	. .	. .	3 34.8	— 5.8	354 18 38.9	+ 44 35 0.3			
19	. .	. .	. .	+ 7 31.3	+ 2 27.8	68 45 6.9	— 29 51 27.7	64.9		
20	29.992	56.7	52.1	— 58.8	3 30.7	74 52 39.7	35 59 0.5	65.7		
21	. .	. .	. .	— 2 41.0	2 27.3	68 39 52.9	29 46 13.7	68.7		
22	. .	. .	. .	+ 1 49.9	2 27.8	68 44 24.3	— 29 50 45.1	68.8		
23	. .	. .	. .	1 44.7	14.5	14 2 5.8	+ 24 51 33.4	85.8		
24	29.994	56.0	51.2	1 44.0	3 48.0	76 0 38.4	— 37 6 59.2	69.6		
25	. .	. .	. .	2 51.8	+ 42.4	36 3 40.1	+ 2 49 59.1	82.3		
26	. .	. .	. .	2 19.9	— 38.3	326 41 48.9	72 11 50.3	101.3		
27	30.000	55.2	49.2	+ 1 45.6	+ 36.5	32 2 26.6	+ 6 51 12.6	84.5		
28	. .	. .	. .	— 23.7	3 10.5	73 12 54.1	— 34 19 14.9	76.7		
29	. .	. .	. .	+ 2 7.6	1 0.5	46 18 16.5	— 7 24 29.0			
30	29.996	52.5	47.0	+ 1 51.0	+ 1 0.5	46 17 59.9				
31										
32	30.102	61.0	61.8	— 13.9	— 15 32.3	23 4 18.2	+ 15 49 21.0			
33	30.100	61.0	63.4	+ 38.0	— 20.9	16 25 23.1	22 28 16.1			
34	. .	. .	. .	— 2 38.8	+ 20.8	23 2 47.4	16 6 43.5			
35	30.136	60.0	65.8	+ 36.7	+ 20.3	22 31 4.1				
36	. .	. .	66.2	+ 36.7	— 20.9	16 45 23.9	22 8 15.3			
37	29.790	66.3	77.3	— 1 35.4	+ 19.5	22 28 51.6	16 40 39.5			
38	. .	. .	. .	+ 1 41.2	+ 19.0	21 57 7.9				
39										
40	29.756	70.7	76.5	+ 23.0	— 38.4	324 59 50.0	+ 73 53 49.2	103.0		
41	. .	. .	. .	— 37.6	+ 45.4	39 35 13.8	— 0 41 34.6	84.0		
42	. .	. .	. .	+ 1 35.0	52.3	43 37 33.9	4 43 54.7	83.4		
43	29.760	71.3	75.1	— 30.5	+ 2 33.8	70 32 8.7	31 38 29.5	78.3		Cloudy; unsteady.
44	. .	. .	. .	+ 1 18.2	— 21 19.7	43 0 1.7	— 4 6 22.5			
45	. .	. .	. .	2 55.0	+ 39.8	35 43 41.0	+ 2 59 58.2	85.8		
46	29.774	72.7	74.4	+ 37.4	1 8.3	51 11 50.3	— 12 18 11.1	82.2		
47	. .	. .	. .	— 2 14.1	3 13.1	74 21 5.6	35 27 26.4	78.6		
48	. .	. .	. .	+ 47.2	3 13.8	74 24 7.6	35 30 28.4	78.6		[served June 2.
49	29.782	. .	73.6	— 5 11.8	3 12.8	74 18 7.6	35 24 28.4	77.9		Number of revolutions not recorded. Reob-
50	. .	. .	. .	1 13.5	3 7.7	73 52 1.0	34 58 21.8	77.6		Faint and uncertain.
51	. .	. .	. .	— 1 57.8	3 7.7	73 51 16.7	34 57 37.5	— 77.1		Faint and uncertain.
52	29.796	72.5	72.3	+ 1 34.1	56.9	46 12 37.2	— 7 18 49.8			
53	. .	. .	. .	+ 1 17.7	56.9	46 12 20.8				
54										
55	. .	. .	. .	— 1 7.2	18.4	21 24 18.8	+ 17 13 28.7		Ha	
56	29.792	67.5	76.7	+ 34.4	19.0	21 56 2.1				
57	29.916	67.0	76.5	— 1 33.3	18.3	21 8 54.6	18 0 34.4		N.	
58	. .	. .	. .	+ 1 48.5	+ 17.8	20 37 15.0				
59	30.008	58.0	53.0	— 41.8	— 1 8.1	310 18 22.6	88 35 16.6	+ 100.0	Ha.	
60	30.004	59.0	56.7	— 1 40.0	— 18.6	19 48 12.3	19 5 26.9			
61	. .	. .	. .	+ 1 41.1	+ 18.4	20 22 9.5	+ 18 15 40.2			
62	30.004	60.0	57.3	— 1 39.4	18.9	20 53 48.4				
63	29.986	64.5	61.5	— 33.2	+ 1 22.3	55 25 57.8	— 16 32 18.6	+ 1.6		
64										

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd.
						o ′ ″	″	″	″	″	″	″	r.	r.	r.
1865.															
May 12	1	B. A. C. 4198	8.0	1	V.	144 45 15.0	7.1	9.3	9.5	6.0	11.1	9.67	28.841	+ 0.272	29.1[illegible]
	2	δ Corvi	5.0	3	IV-VI.	" " "	"	"	"	"	"	"	42.724	. .	42.992
	3	12[1] Canum Venaticorum.		3	I-IX.	89 50 14.8	8.0	11.0	12.5	7.0	13.9	11.20	28.071	. .	28.312
	4	12[2] Canum Venaticorum.		2	III, VII.	" " "	"	"	"	"	"	"	28.525	. .	28.780
	5	θ Virginis		3	III-VII.	133 45 14.9	8.1	9.5	12.5	7.0	13.1	10.85	35.935	. .	36.203
	6	Polaris, S. P.		3	4-2.	37 30 15.0	7.9	12.9	15.3	8.0	13.0	12.02	29.694	. .	29.962
	7	Saturn S. L.		3	I-IX.	136 5 16.0	11.0	12.1	14.3	8.0	13.8	12.53	32.560	. .	32.831
	8	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	33.055	. .	33.324
	9	η Bootis		3	III-VII.	109 50 15.9	10.9	11.9	14.3	8.0	13.6	12.43	32.351	. .	32.614
	10	94 Virginis		3	III-VII.	137 10 15.0	9.2	10.1	13.0	5.7	12.1	10.85	34.905	. .	35.174
	11	α Bootis		3	III-VII.	109 0 14.7	10.9	11.0	14.0	6.3	13.0	11.65	29.712	. .	29.975
	12	2 Libræ		3	III-VII.	140 0 14.8	8.5	9.0	13.2	4.5	11.1	10.18	33.201	. .	33.470
	13	ε Bootis		3	III-VII.	101 15 15.0	9.0	10.8	13.8	6.1	12.8	11.25	30.434	. .	30.686
	14	α[2] Libræ		3	III-VII.	144 20 15.5	10.0	11.8	14.1	7.0	12.2	11.77	27.921	. .	28.191
	15	Moon N. L.		3	III-VII.	148 30 15.1	10.1	11.1	15.9	4.0	10.3	11.08	32.367	. .	32.635
	16	Venus N. L.		3	I-IX.	110 10 11.8	5.6	6.0	8.4	2.5	8.5	7.13	27.382	+ 0.273	27.644
	17	Venus S. L.		2	III, VII.	" " "	"	"	"	"	"	"	25.425	. .	25.693
13	18	Sun S. L.		4	I-IV.	110 40 11.5	4.4	4.9	8.2	3.0	8.3	6.72	32.390	. .	32.670
	19	Sun N. L.		4	VI-IX.	110 5 11.3	5.1	5.6	7.6	4.0	9.2	7.13	26.082	. .	26.332
	20	Weisse XI, 895		5	I-IX.	129 59 69.2	58.6	60.1	61.4	57.9	66.6	62.30	23.911	. .	24.185
	21	α Corvi	3.3	5	V-IX.	152 50 13.4	2.8	7.0	7.0	3.0	10.5	7.28	28.658	. .	28.936
	22	Weisse XII, 160	9.7	3	III-VII.	123 0 11.8	1.8	4.5	4.5	0.6	10.0	5.53	25.017	. .	25.289
	23	B. A. C. 4184	7.0	5	I-IX.	104 10 12.0	2.9	6.2	6.4	3.9	12.0	7.23	24.302	. .	24.563
	24	28 Virginis		5	I-IX.	135 40 11.2	1.5	4.5	3.1	2.3	9.1	5.28	33.030	. .	33.306
	25	Weisse XII, 857	9.0	3	III-VII.	142 30 11.9	2.0	5.6	4.7	1.5	9.1	5.80	30.775	. .	31.051
	26	Weisse XIII, 354	9.0	1	V.	126 30 11.0	1.1	3.4	2.7	0.8	7.7	4.45	32.530	. .	32.803
	27	B. A. C. 4541, N. *	6.5	2	IV, VII.	154 40 11.5	1.6	5.0	3.0	1.6	8.2	5.15	29.520	. .	29.797
	28	B. A. C. 4541, S. *	7.5	2	V, VIII.	" " "	"	"	"	"	"	"	29.190	. .	29.465
	29	Saturn		5	I-IX.	136 0 10.2	1.1	4.5	3.0	1.1	7.6	4.58	25.271	. .	25.547
	30	η Bootis		2	III, IV.	109 50 11.2	2.1	4.5	4.2	1.9	9.0	5.48	32.062	. .	32.333
	31	η Bootis, (Ref.)		3	VII-IX.	250 10 10.5	0.6	6.9	6.9	4.5	11.9	6.88	27.775	. .	28.055
	32	α Draconis		4	I-IV.	63 55 10.6	0.0	5.8	7.0	1.4	10.0	5.80	34.212	. .	34.436
	33	α Draconis, (Ref.)		4	VI-IX.	296 10 12.0	2.3	4.9	4.1	3.2	8.3	5.80	35.200	. .	35.522
	34	α Bootis, (Ref.)		3	V-IX.	251 0 12.1	2.2	8.7	7.9	6.2	13.1	8.37	30.390	. .	30.668
	35	Nadir 14h. 20m.		4	. .	269 59 69.1	59.5	63.2	64.1	61.4	68.0	64.22	29.862	. .	. .
14	36	Moon N. L.		5	I-IX.	146 34 66.6	58.1	60.8	62.0	55.6	64.0	61.18	27.101	+ 0.284	27.393
	37	Polaris		3	2-4.	40 20 14.2	8.8	12.1	15.2	8.2	16.4	12.48	31.108	+ 0.290	31.397
	38	Venus S. L.		3	I-IX.	111 0 13.9	7.0	6.5	9.0	6.0	12.4	9.13	31.420	. .	31.700
	39	Venus N. L.		2	III, VII.	" " "	"	"	"	"	"	"	33.256	. .	33.541
15	40	Sun N. L.		4	I-IV.	109 40 13.8	6.7	5.7	8.5	6.1	12.8	8.93	33.088	. .	33.384
	41	Sun S. L.		4	VI-IX.	110 10 14.0	6.6	6.5	7.0	5.9	12.1	8.68	29.926	. .	30.193
	42	α Canis Majoris		5	I-IX.	145 25 14.0	3.0	2.9	4.0	4.0	14.1	7.00	30.706	. .	31.003
	43	28 Virginis		3	III-VII.	135 40 14.0	4.1	5.9	5.0	5.2	13.8	8.00	33.112	. .	33.403
	44	Weisse XII, 736	8.0	1	VIII.	128 50 14.0	4.0	4.9	5.7	4.0	13.1	7.62	22.011	. .	22.297
	45	B. A. C. 4363	7.0	3	III-VII.	126 35 14.8	5.2	5.9	5.9	5.2	13.9	8.48	23.790	. .	24.080
	46	Polaris, S. P.		3	4-2.	37 30 14.8	4.2	9.0	9.3	7.5	14.5	9.88	29.688	. .	29.979
	47	Lacaille 5553	7.0	3	I-IX.	154 35 14.0	3.5	6.1	5.9	3.7	13.0	7.70	31.965	. .	32.271
	48	B. A. C. 4541[1]	7.0	3	I-IX.	" " "	"	"	"	"	"	"	19.645	. .	19.951
	49	B. A. C. 4541[2]	7.0	2	III, VII.	" " "	"	"	"	"	"	"	19.990	. .	20.287
	50	Saturn S. L.		3	I-IX.	136 0 15.0	6.0	7.2	7.0	6.5	14.0	9.28	29.730	. .	30.024
	51	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	30.237	. .	30.529
	52	47 Hydræ	7.0	3	I-IX.	153 10 15.0	4.0	8.0	7.0	4.0	13.1	8.52	28.724	. .	29.029
	53	B. A. C. 4691	7.0	3	III-VII.	144 25 15.3	5.3	6.2	7.0	5.4	12.2	8.57	29.631	. .	29.924
	54	Lacaille 5956	7.0	3	III-VII.	154 15 14.9	6.3	8.0	7.0	4.9	12.5	8.93	27.458	. .	27.753
	55	O. Arg. S. 13757	8.0	1	V.	154 5 14.9	5.2	8.8	7.0	4.8	13.0	8.95	31.409	. .	31.699
	56	Lacaille 6060	7.5	3	III-VII.	156 5 15.0	5.0	7.6	8.2	4.3	12.2	8.72	31.745	. .	32.040
	57	Nadir 14h. 50m.		3	. .	270 0 15.0	4.0	6.9	8.2	5.2	15.0	9.05	29.994	. .	. .
	58	Venus N. L.		5	I-IX.	111 20 11.9	3.9	5.1	6.4	2.2	11.1	6.77	27.720	. .	28.002
16	59	Sun N. L.		4	I-IV.	109 25 12.0	3.6	4.5	5.0	3.9	10.4	6.57	30.769	. .	31.065
	60	Sun S. L.		4	VI-IX.	109 55 10.4	1.9	3.1	4.1	2.5	9.8	5.30	27.606	. .	27.873
	61	Anon. 12h. 47m. 2s.		1	V.	156 4 71.1	58.0	61.5	60.8	58.1	68.5	63.00	29.161	. .	29.451
	62	Polaris, S. P., (Ref.)		5	5-1.	322 29 71.5	58.2	64.0	58.0	60.1	67.9	63.28	30.103	. .	30.389
	63	Anon. 13h. 27m. 32s.		1	V.	163 49 71.9	59.3	64.9	61.2	60.4	69.8	64.58	33.520	. .	33.810
	64	Saturn S. L.		3	I-IX.	136 0 11.9	0.1	3.0	0.1	1.5	9.9	4.42	31.704	. .	31.998
	65	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	32.220	. .	32.512

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.016	60.0	51.1	+ 27.9	+ 1 22.1	54 46 59.6	— 15 53 20.4	— 81.6	Ha.	
2	. .	. .	. .	— 6 46.7	+ 1 21.8	54 39 44.7	— 15 46 5.5	81.6		
3	. .	. .	. .	+ 52.8	— 0.2	359 51 3.8	+ 39 2 35.4	94.3		
4	. .	. .	. .	+ 38.2	— 0.2	359 50 49.2	+ 39 2 50.0			
5	. .	. .	50.0	— 3 14.2	+ 55.6	43 42 52.2	— 4 49 13.0	— 83.0		
6	. .	. .	. .	+ 1.2	— 1 15.8	307 28 57.4	+ 88 35 18.2	+ 100.3		
7	. .	. .	. .	— 1 28.6	+ 59.8	46 4 43.7	— 7 10 56.7			
8	30.014	57.5	49.3	1 44.1	59.8	46 4 28.2				
9	. .	. .	. .	1 21.8	21.0	19 49 11.6	+ 19 4 27.6	— 82.3		
10	. .	. .	. .	— 2 42.0	1 2.8	47 8 31.6	— 8 14 52.4	76.2		
11	. .	. .	. .	+ 0.8	20.1	19 0 32.5	+ 19 53 6.7	78.4		
12	. .	. .	. .	— 1 48.6	1 9.5	49 59 31.0	— 11 5 51.8	73.1		
13	. .	. .	. .	— 21.8	11.6	11 15 1.0	+ 27 38 38.2	72.4		
14	30.022	56.5	48.4	+ 56.7	+ 1 21.4	54 22 29.8	— 15 28 50.6	67.5		A very bad night.
15	30.000	53.5	46.5	— 1 22.6	— 30 45.6	57 58 2.8	— 19 4 23.6			
16	30.084	60.0	. .	+ 1 13.7	+ 10.8	20 11 31.6	+ 18 41 37.1		N.	Line of cusps sensibly vertical.
17	. .	. .	. .	+ 2 14.8	10.8	20 12 32.7				
18	30.087	61.0	67.7	— 1 23.6	18.3	20 39 1.4	+ 18 30 28.7			Good observation.
19	. .	. .	. .	+ 1 54.8	17.8	20 7 19.7				
20	30.143	63.0	60.2	3 2.0	48.2	40 3 52.5	— 1 10 13.3	84.4		
21	. .	. .	. .	33.3	1 51.1	62 52 31.6	— 23 58 52.4	79.0		
22	. .	. .	. .	2 27.5	37.3	33 3 10.3	+ 5 50 28.9	87.0		
23	30.157	62.5	59.6	+ 2 50.2	14.6	14 13 12.0	+ 24 40 27.2	92.4		Whole rev. recorded, 23.
24	. .	. .	. .	— 1 43.5	58.7	45 39 20.4	— 6 45 41.2	83.7		
25	30.165	62.2	58.3	32.9	1 14.9	52 30 47.8	— 13 37 8.6	81.7		
26	. .	. .	. .	— 1 27.7	42.7	36 29 19.4	+ 2 24 19.8	82.8		
27	. .	. .	. .	+ 6.4	2 1.4	64 42 12.9	— 25 48 33.7	77.3		Double star. Angle 20°.
28	. .	. .	. .	16.7	2 1.4	64 42 23.2	25 48 44.0	77.3		
29	30.169	61.3	56.9	+ 2 19.4	59.2	46 3 23.1	— 7 9 43.9			
30	. .	. .	. .	— 1 13.0	+ 20.8	19 49 13.2	+ 19 4 26.0	82.4		
31	. .	. .	. .	+ 1 0.9	— 20.8	340 10 46.9	19 4 26.2			
32	. .	. .	. .	— 2 18.9	— 28.4	333 52 18.5	65 1 20.7	87.6		
33	. .	. .	. .	2 52.9	+ 28.4	26 7 41.3	65 1 20.5			
34	. .	. .	. .	— 20.9	— 19.9	340 59 27.5	+ 19 53 6.8	— 78.6		
35	. .	. .	56.0							
36	30.330	56.5	51.8	+ 1 21.6	30 28.8	56 5 53.9	— 17 12 14.7			
37	30.408	60.5	67.0	— 43.7	— 1 7.2	310 18 21.5	+ 88 35 17.7	+ 100.6	Ha.	
38	. .	. .	. .	53.2	+ 11.5	20 59 27.4	17 54 40.8			
39	30.410	64.0	71.1	1 50.9	11.4	20 58 29.6				
40	. .	. .	. .	1 45.9	17.3	19 38 40.3	+ 18 59 8.8			
41	30.408	65.5	73.3	0 6.0	17.8	20 10 20.4				
42	30.376	68.5	75.6	31.4	1 21.1	55 25 56.7	— 16 32 17.5	+ 1.1		
43	30.408	66.0	63.0	— 1 46.5	58.7	45 39 20.2	6 45 41.0	— 83.6		
44	. .	. .	. .	+ 4 1.2	46.4	38 54 55.2	— 0 1 16.0	85.1		
45	. .	. .	. .	3 5.3	42.8	36 38 56.5	+ 2 14 42.7	— 85.2		
46	30.406	65.5	62.3	+ 0.7	— 1 14.9	307 28 55.6	+ 88 35 16.4	+ 100.9		
47	. .	. .	. .	— 1 11.1	+ 2 0.6	64 35 57.2	— 25 42 18.0	— 77.8		
48	. .	. .	. .	+ 5 14.6	2 1.2	64 42 23.5	25 48 44.3	77.1		
49	. .	. .	. .	+ 5 4.1	2 1.2	64 42 13.0	25 48 33.8	77.1		
50	. .	. .	. .	— 0.7	59.0	46 1 7.5	7 7 20.4			
51	. .	. .	. .	— 16.6	59.0	46 0 51.6				
52	30.402	65.0	61.0	+ 30.4	1 53.7	63 12 32.6	24 18 53.4	75.1		
53	. .	. .	. .	0 2.4	1 20.6	54 26 31.5	15 32 52.3	75.0		
54	. .	. .	. .	+ 1 10.4	1 59.6	64 18 18.9	25 24 39.7	70.6		
55	. .	. .	. .	— 53.2	1 58.6	64 6 14.3	25 12 35.1	69.3		
56	30.400	64.0	59.0	— 1 3.9	2 9.8	66 6 14.6	— 27 12 35.4	68.3		
57										
58	30.357	65.8	73.0	+ 1 2.6	40.3	21 21 49.6	+ 17 31 49.6		N.	
59	. .	. .	. .	— 33.3	16.9	19 24 50.1	+ 19 12 59.5			
60	30.336	67.0	76.8	+ 1 6.6	17.4	19 56 29.3				
61	30.191	69.0	67.2	+ 17.2	2 7.0	66 7 27.2	— 27 13 48.0	— 79.0		
62	. .	. .	. .	— 12.2	1 13.8	52 31 4.8	+ 88 35 15.9	+ 101.1		Good.
63	. .	. .	66.2	1 59.3	3 12.7	73 51 17.9	— 34 57 38.7	— 75.9		
64	. .	. .	. .	1 2.6	58.0	45 59 59.8	— 7 6 12.6			
65	. .	. .	. .	— 1 18.6	+ 58.0	45 59 43.8				

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Trait wires	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correct.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
May 16	1	η Bootis, (Ref.)		5	I-IX.	249 70 13.4	59.4	66.2	64.2	65.0	75.3	67.25	27.802	+ 0.290	28.101
	2	Nadir		4		270 0 14.8	1.6	5.3	4.7	4.9	14.5	7.63	29.956		
	3	Polaris		3	2-4.	40 20 14.0	5.1	9.9	10.4	6.0	15.5	10.15	31.064		31.353
	4	Venus N. L.		3	III-VII.	111 44 15.2	6.9	6.1	7.7	5.9	15.1	9.48	32.939		33.226
17	5	α Canis Majoris		5	I-IX.	145 25 15.5	2.2	3.2	1.6	4.0	15.2	6.95	30.622		30.920
	6	λ Draconis		3	IV-VI.	58 50 15.0	1.1	7.2	3.3	7.9	19.8	9.05	30.828		31.110
	7	2 Draconis	6.0	3	IV-VI.	" " "	"	"	"	"	"	"	30.580		30.862
	8	β Leonis, (Ref.)		4	I-IV.	246 24 74.9	58.0	66.9	62.2	66.8	78.0	67.80	27.726		28.026
	9	β Leonis		4	VI-IX.	113 35 15.3	2.9	6.0	2.9	6.5	17.2	8.47	32.277		32.557
	10	o Virginis, (Ref.)		4	I-IV.	240 35 19.9	3.8	11.2	8.0	12.3	23.1	13.05	28.931		29.225
	11	o Virginis		4	VI-IX.	119 25 20.0	6.5	9.0	5.9	9.9	20.1	11.90	31.378		31.661
	12	4 Draconis, (Ref.)		2	III, IV.	309 30 20.0	5.8	11.0	3.0	9.8	19.9	11.58	34.475		34.813
	13	4 Draconis		2	VI, VII.	50 30 19.7	6.2	13.0	10.0	13.0	24.5	14.40	25.750		25.992
	14	κ Draconis, (Ref.)		4	I-IV.	301 40 20.6	6.8	11.7	5.1	11.1	20.2	12.58	34.246		34.607
	15	κ Draconis		4	VI-IX.	58 20 20.0	8.3	13.9	11.9	15.1	27.0	16.03	26.099		26.318
	16	Nadir		3		270 0 20.8	6.9	11.0	8.3	12.5	22.1	13.60	30.145		
	17	Polaris, S. P., (Ref.)		3		322 30 20.1	6.4	12.0	6.9	11.0	19.5	12.65	30.447		30.651
	18	Polaris, S. P.		3	4-2.	37 30 20.5	7.7	13.0	13.0	13.0	22.1	14.88	29.894		30.155
	19	Saturn N. L.		3	I-IX.	136 0 19.9	7.8	11.4	8.1	11.0	20.5	13.12	34.647		34.941
	20	Saturn S. L.		2	III, VII.	" " "	"	"	"	"	"	"	34.127		34.419
	21	Venus N. L.		5	I-IX.	112 5 14.0	5.2	6.7	7.0	5.8	15.8	9.08	29.753		30.035
18	22	Sun S. L.		4	I-IV.	109 30 15.1	5.9	6.3	6.2	6.4	15.5	9.23	30.994		31.289
	23	Sun N. L.		4	VI-IX.	109 0 14.5	5.1	5.0	5.2	5.0	14.9	8.28	34.089		34.357
22	24	Sun N. L.		4	I-IV.	108 10 15.2	8.1	8.8	7.2	7.1	16.0	10.40	32.951	+ 0.325	33.279
	25	Sun S. L.		4	VI-IX.	108 40 15.8	8.3	9.1	9.0	7.9	17.2	11.22	29.994		30.297
	26	Nadir 12h. 30m.		3		270 0 16.0	3.1	8.1	5.8	7.0	16.8	9.47	29.974		
23	27	Weisse XII, 359	8.0	5	I-IX.	122 10 16.0	5.4	7.3	9.3	2.8	12.9	8.95	28.446		28.768
	28	Weisse XII, 452	8.0	1	IX.	" " "	"	"	"	"	"	"	28.922		29.236
	29	Weisse XII, 652		3	III-VII.	114 35 16.3	7.6	9.3	11.4	5.3	15.2	10.85	31.839		32.162
	30	Lalande 23832	7.5	2	VI, IX.	" " "	"	"	"	"	"	"	35.678		35.993
	31	28 Comæ	6.5	1	IX.	" " "	"	"	"	"	"	"	28.404		28.711
	32	O. Arg. S. 12629		5	I-IX.	145 50 16.1	7.1	9.0	9.8	4.2	13.4	9.93	30.951		31.284
	33	Polaris, S. P.		3		37 30 16.4	6.4	11.9	13.8	6.4	14.0	11.48	29.772		30.105
	34	Weisse XIII, 426		1	V.	135 50 17.4	8.1	10.9	11.2	6.2	14.1	11.32	32.863		33.128
	35	Saturn N. L.		3	I-IX.	" " "	"	"	"	"	"	"	27.234		27.563
	36	Saturn S. L.		2	III, VII.	" " "	"	"	"	"	"	"	26.694		27.021
	37	B. A. C. 4578		1	III.	" " "	"	"	"	"	"	"	29.738		30.067
	38	Weisse XIII, 676		3	III-VII.	136 45 18.0	7.3	10.2	11.5	5.9	14.4	11.22	35.147		35.473
	39	Anon. 13h. 53m. 42s.	8.5	3	III-VII.	167 40 18.3	7.3	12.7	14.6	5.2	14.0	12.02	36.426		36.759
	40	Weisse XIV, 199		5	I-IX.	142 0 16.8	6.0	9.3	10.7	2.3	12.0	9.52	34.290		34.621
	41	Weisse XIV, 293		2	III, VII.	142 20 16.9	6.7	10.1	11.6	3.0	13.2	10.25	28.892		29.220
	42	Weisse XIV, 316		1	IX.	" " "	"	"	"	"	"	"	28.003		28.335
	43	Weisse XIV, 540		5	I-IX.	132 10 16.5	5.8	8.3	11.0	1.8	11.8	9.20	28.023		28.350
	44	O. S. 14065		5	I-IX.	155 10 16.3	5.9	10.1	13.8	2.7	11.1	9.98	35.854		36.191
	45	Weisse XIV, 1048		5	I-IX.	139 20 16.1	5.5	7.8	10.3	2.0	11.1	8.80	28.185		28.515
	46	B. A. C. 5051		5	I-IX.	154 20 15.3	4.8	9.8	10.2	1.1	11.0	8.70	27.334		27.671
	47	Nadir 15h. 35m.		4		270 0 15.5	5.8	9.1	12.7	4.1	13.8	10.17	30.000		
24	48	Polaris, S P.		3	4-2.	37 30 15.2	6.1	11.3	13.0	7.2	13.2	11.00	29.744		30.070
	49	Saturn S. L.		3	I-IX.	135 50 15.1	5.9	8.9	9.0	4.8	11.8	9.25	28.385		28.714
	50	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	28.900		29.227
	51	Anon. 13h. 56m. 3s.	8.5	1	V.	166 0 15.1	5.0	8.0	11.2	3.2	11.1	8.93	34.851		35.176
	52	Lacaille 5812	7.5	1	V.	" " "	"	"	"	"	"	"	39.444		39.769
	53	Nadir 14h. 15m.		3		270 0 15.0	4.0	8.2	10.1	4.6	12.9	9.13	29.966		
	54	Venus S. L.		5	I-IX.	114 10 15.5	9.1	9.4	13.0	6.0	15.0	11.33	26.086		26.404
	55	Mercury, centre of light		5	I-IX.	117 15 15.5	6.6		11.1	3.2	13.0	9.52	26.241		26.561
25	56	Sun S. L.		4	I-IV.	108 5 12.2	4.8	6.0	6.9	2.9	11.4	7.37	26.756		27.084
	57	Sun N. L.		4	VI-IX.	107 35 10.8	3.1	5.2	5.5	2.2	10.9	6.28	29.811		30.115
	58	Nadir 2h. 40m.		3		269 59 70.8	58.6	63.0	63.6	60.3	70.0	64.38	29.816		
	59	α Canis Majoris		2	VII, IX.	145 24 69.8	59.6	60.1	62.1	58.4	69.2	63.20	30.603		30.891
29	60	Sun N. L.		4	I-IV.	106 55 17.1	9.3	10.6	11.0	9.9	16.8	12.45	28.950	+ 0.283	29.234
	61	Sun S. L.		4	VI-IX.	107 25 16.9	9.2	10.0	9.8	9.7	16.9	12.08	25.895		26.158
	62	Polaris, S. P., (Ref.)		3		322 30 17.8	6.5	12.0	8.0	7.8	13.6	10.95	30.499		30.559
	63	Saturn N. L.		3	I-IX.	135 45 18.3	9.1	11.1	10.8	9.9	17.0	12.70	27.380		27.667
	64	Saturn S. L.		2	III, VII.	" " "	"	"	"	"	"	"	26.922		27.207

Number.	Barometer.	THERM'S.		CORRECTIONS FOR—		Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
		At.	Ex.	Micrometer.	Object.					
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	+ 59.5	— 20.5	340 10 46.2	+ 19 4 25.5	— 82.8	N.	
2										
3	30.084	68.0	74.7	— 42.4	— 1 5.5	310 18 22.2	88 35 17.0	+ 101.2	Ha.	
4	30.078	70.5	78.2	1 41.0	+ 40.0	21 44 8.4	+ 17 9 30.8			
5	29.978	75.0	83.4	28.8	+ 1 18.9	55 25 57.0	— 16 32 17.8	+ 0.8		
6	29.936	75.5	73.9	34.7	— 33.5	328 49 0.8	+ 70 4 38.4	— 103.2		
7	. .	. .	. .	— 27.0	33.5	328 49 0.5	70 4 30.7	103.5		
8	. .	. .	. .	+ 1 1.8	— 24.2	336 25 45.4	15 19 24.6	89.3		
9	. .	. .	. .	— 1 20.1	+ 24.2	23 34 12.5	15 19 26.8			
10	. .	. .	. .	+ 24.2	— 31.3	330 35 5.9	9 28 45.2	88.1		
11	. .	. .	. .	— 52.0	+ 31.3	29 24 51.2	9 28 48.0			
12	. .	. .	. .	— 2 30.7	+ 45.8	39 28 26.6	78 22 5.9	105.6		
13	. .	. .	. .	+ 2 5.5	— 45.8	320 31 34.1	78 22 5.1			
14	. .	. .	. .	— 2 24.2	+ 34.3	31 38 22.6	70 32 1.9	— 103.5		
15	29.942	74.5	71.1	+ 1 55.3	— 34.3	328 21 37.0	70 32 2.2			
16										
17	. .	. .	. .	— 20.4	+ 1 12.6	52 31 4.8	88 35 15.9	+ 101.3		At 13h. 1m. 2s., 2m. 2s., and 3m. 2s.
18	. .	. .	. .	5.8	— 1 12.6	307 28 56.4	+ 88 35 17.2			
19	. .	. .	. .	2 34.7	+ 57.0	45 58 35.4	— 7 5 4.3			
20	29.938	73.0	69.8	2 18.4	57.0	45 58 51.7				
21	30.000	74.0	82.8	1.1	39.9	22 5 47.8	+ 16 47 51.4		N.	
22	. .	. .	. .	40.4	16.4	19 29 45.2	19 39 42.2			
23	29.999	75.3	85.2	2 16.4	17.0	18 58 8.8				
24	. .	. .	. .	1 42.7	15.2	18 8 42.9	20 29 9.0		Ha.	
25	29.672	73.0	78.9	— 9.3	15.7	18 40 17.6				
26										
27	29.850	68.5	63.4	+ 38.6	35.5	32 11 23.0	6 42 16.2	— 88.3	D.	
28	. .	. .	. .	+ 23.9	35.5	32 11 8.3	6 42 13.9	88.2		
29	. .	. .	. .	— 1 7.7	25.8	24 34 28.9	14 19 10.3	90.1		Whole number rev. not recorded.
30	. .	. .	. .	— 3 7.6	25.8	24 32 29.0	14 21 10.2	90.1		
31	. .	. .	. .	+ 40.3	25.9	24 36 17.0	+ 14 17 22.2	90.0		
32	29.865	67.5	62.2	— 40.2	+ 1 23.1	55 50 52.8	— 16 57 13.6	— 80.8		
33	. .	. .	. .	3.3	— 1 13.6	307 28 54.5	+ 88 35 15.3	+ 102.7		At 13h. 11m. 10s., 11m. 50s., (wire 1,) and 12m. 44s.
34	. .	. .	. .	— 1 37.9	+ 58.2	45 49 31.6	— 6 55 52.4	— 81.0		
35	. .	. .	. .	+ 1 16.3	57.7	45 52 25.2	6 58 54.6			
36	. .	. .	. .	+ 1 33.3	57.7	45 52 42.3				
37	. .	. .	. .	— 2.1	58.3	45 51 7.5	6 57 28.3	79.7		
38	. .	. .	. .	2 51.4	1 0.1	46 43 19.9	7 49 40.7	79.2		
39	29.871	66.0	60.5	3 31.6	4 12.4	77 40 52.8	38 47 13.6	72.4		
40	. .	. .	. .	— 2 24.7	1 12.6	51 58 57.4	13 5 18.2	73.6		
41	. .	. .	. .	+ 24.4	1 13.6	52 21 48.2	13 28 9.0	72.8		
42	. .	. .	. .	52.1	1 13.6	52 22 15.9	13 28 36.7	72.6		
43	29.871	65.0	59.2	+ 51.6	51.5	42 11 52.3	3 18 13.1	71.9		
44	. .	. .	. .	— 3 13.8	2 2.3	65 8 58.4	26 15 19.2	65.4		
45	. .	. .	. .	+ 46.5	1 6.3	49 22 1.6	10 28 22.4	65.2		
46	29.876	63.8	58.0	+ 1 12.9	+ 1 58.3	64 23 19.9	— 25 29 40.7	— 60.1		
47										
48	29.910	66.0	60.5	— 2.2	— 1 14.0	307 28 54.8	+ 88 35 15.6	+ 102.8	Ha.	
49	. .	. .	. .	+ 40.2	+ 57.9	45 51 47.3	— 6 58 0.1			
50	. .	. .	. .	+ 24.2	57.9	45 51 31.3				
51	. .	. .	. .	— 2 42.1	3 43.6	76 1 10.4	37 7 31.2	— 72.2		
52	29.908	65.0	59.5	— 5 5.9	3 43.0	75 58 46.0	— 37 5 6.8	72.0		
53										
54	29.904	66.0	70.3	+ 1 52.6	40.3	24 12 44.2	+ 14 40 55.0		D.	
55	29.901	66.0	70.8	1 47.6	24.7	27 17 21.8	11 36 17.4			— 0″.06 applied to mean of A, B, E, F. + 1″.21 added for defective illumination.
56	. .	. .	. .	+ 1 31.3	15.5	18 6 54.1	+ 21 2 33.3		N.	
57	29.890	67.8	74.8	— 3.6	15.0	17 35 17.6				
58										After this observation shortened focus by sinking eye-piece to its last summer's position.
59	. .	. .	. .	— 27.9	1 19.7	55 25 55.0	— 16 32 15.8	— 0.4	D.	
60	29.936	68.0	69.3	+ 24.0	14.6	16 55 51.0	+ 21 41 59.9		Ha.	
61	. .	. .	. .	+ 2 0.4	15.1	17 27 27.5				
62	30.056	66.0	61.2	— 17.5	1 14.2	52 31 7.6	+ 88 35 13.1	+ 103.5		At 13h. 19m. 49s., 22m. 7s., and 22m. 50s.
63	. .	. .	. .	+ 1 13.1	57.9	45 47 23.7	— 6 53 51.7			
64	. .	. .	. .	+ 1 27.5	+ 57.9	45 47 38.1				

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correct'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
May 29	1	Polaris, S. P.		3		37 30 18.1	8.9	14.2	14.0	12.0	17 2	14.07	28.572	+ 0.283	30.19[illegible]
	2	*a* Bootis, (Ref.)		4	I–IV.	251 0 15.0	4.2	11.5	9.5	10.0	16.7	11.15	30.428	. .	30.72[illegible]
	3	Nadir 15h. 0m.		3		270 0 15.6	6.2	9.9	9.8	8.1	15.0	10.77	30.052	. .	. .
	4	Venus S. C.		3	I–IX.	115 10 12.2	4.6	5.4	7.2	3.7	13.0	7.68	26.053	. .	26.32[illegible]
	5	Venus N. L.		2	III, VII.	" " "	"	"	"	"	"	"	27.519	. .	27.79[illegible]
	6	Mercury		5	I–IX.	116 0 13.7	5.2	7.0	7.2	4.8	14.1	8.67	33.775	. .	34.052
30	7	Sun S. L.		4	I–IV.	106 45 13.0	4.6	5.2	5.8	5.6	14.2	8.07	26.730	. .	27.014
	8	Sun S. L.		4	VI–IX.	107 15 10.8	2.2	3.2	2.5	3.6	11.0	5.55	23.606	. .	23.[illegible]
	9	Polaris, S. P., (Ref.)		5		322 29 71.1	57.5	64.0	68.2	60.1	57.4	63.05	30.049	. .	30.319
	10	Saturn S. L.		3	I–IX.	135 45 15.0	4.0	7.8	5.0	6.2	14.9	8.82	28.133	. .	28.420
	11	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	28.644	. .	28.929
	12	Anon. 17h. 17m. 53s.		1	V.	149 30 15.8	2.8	7.9	7.0	2.2	12.0	7.95	27.595	. .	27.87[illegible]
	13	Nadir 17h. 35m.		4		270 0 14.0	1.4	6.9	5.2	4.2	12.9	7.43	29.959	. .	. .
	14	B. A. C. 6024		1	IX.	155 50 12.5	0.0	5.1	4.0	0.1	9.2	5.15	25.528	. .	25.831
	15	Anon. 17h. 49m. 56s.		1	V.	167 25 15.2	2.9	9.1	8.5	3.1	11.4	8.37	34.600	. .	34.[illegible]
	16	Anon. 18h. 15m. 53s.		1	V.	158 30 14.9	3.9	8.9	8.8	2.2	12.1	8.47	36.670	. .	36.953
	17	Anon. 18h. 18m. 32s.		3	I–IX.	" " "	"	"	"	"	"	"	37.546	. .	37.847
	18	*δ* Draconis, (Ref.)		4	I–IV.	298 30 15.1	3.1	8.4	3.0	3.0	10.8	7.23	27.471	. .	27.815
	19	*δ* Draconis		4	VI–IX.	61 30 15.8	5.9	11.4	11.8	7.5	17.9	11.72	32.595	. .	32.817
	20	*κ* Aquilæ		2	I, III.	136 10 14.5	6.3	9.4	8.7	5.5	13.9	9.72	26.382	. .	26.672
	21	*γ* Aquilæ, (Ref)		5	I–IX.	241 25 14.3	2.4	8.2	8.6	5.3	14.5	8.88	31.581	. .	31.[illegible]
	22	B. A. C. 6886		3	III–VII.	162 15 13.3	3.2	9.2	8.5	2.2	10.6	7.83	33.600	. .	33.[illegible]
	23	Venus N. L.		3	I–IX.	115 20 14.9	8.8	8.2	10.8	7.0	17.0	11.12	30.429	. .	30.704
	24	Venus S. C.		2	III, VII.	" " "	"	"	"	"	"	"	29.030	. .	29.309
31	25	Sun N. L.		4	I–IV.	106 40 14.4	7.9	7.9	9.0	7.8	16.0	10.50	33.557	. .	33.840
	26	Sun S. L.		4	VI–IX.	107 10 15.1	7.3	8.9	8.0	8.5	15.3	10.52	30.679	. .	30.942
	27	Nadir 14h. 35m.		3		270 0 15.2	1.9	7.2	4.5	6.0	15.0	8.30	29.987	. .	. .
	28	*a* Lyræ		5	III–VII.	90 15 15.7	7.1	8.9	10.7	6.9	17.2	11.08	31.944	. .	32.221
June 1	29	Sun S. L.		4	I–IV.	107 0 12.6	5.0	6.1	7.2	4.1	13.0	8.00	26.980	+ 0.271	27.253
	30	Sun N. L.		4	VI–IX.	106 30 12.2	5.5	6.5	7.0	5.2	13.5	8.32	30.009	. .	30.280
	31	Moon N. L.		5	I–IX.	127 40 12.9	1.3	1.4	2.9	1.3	13.3	5.52	23.437	. .	23.707
	32	*e* Virginis		5	I–IX.	119 25 26.8	14.8	15.3	16.5	15.8	25.8	19.17	31.623	. .	31.890
	33	*η* Virginis		5	I–IX.	128 50 13.7	1.7	2.8	3.3	1.5	14.1	6.18	33.547	. .	33.818
	34	*κ* Draconis		3	IV–VI.	58 20 14.2	2.9	8.0	7.7	7.9	19.0	9.95	25.950	. .	26.213
	35	Polaris, S. P., (Ref.)		5		322 30 15.3	0.9	6.9	1.2	3.3	12.1	6.62	30.386	. .	30.383
	36	Polaris, S. P.		5	5–1.	37 30 15.9	3.1	9.7	9.0	7.0	16.8	10.25	29.871	. .	30.146
	37	Saturn S. L.		3	I–IX.	135 45 15.8	3.2	6.4	4.7	4.0	15.6	8.28	30.683	. .	30.958
	38	Saturn N. L.		2	III, VII.	" " "	"	"	"	"	"	"	31.184	. .	31.457
	39	Weisse XV, 3	9.0	1	V.	140 0 16.1	4.2	7.4	6.8	4.0	14.0	8.75	37.510	. .	37.781
	40	*γ*[2] Ursæ Minoris, (Ref.)		5	III–VII.	303 25 16.2	2.6	8.8	6.0	4.0	14.8	8.73	30.580	. .	30.855
	41	*a* Serpentis, (Ref.)		4	I, IV, VI, IX.	238 0 16.2	0.9	10.7	6.4	7.9	18.4	10.42	33.769	. .	34.044
	42	*β*[1] Scorpii, (Ref.)		4	I, IV, VI, IX.	211 40 16.8	4.0	11.7	10.5	5.7	17.9	11.10	26.571	. .	26.832
	43	Nadir 16h. 20m.		4		270 0 17.0	5.3	8.5	9.9	7.1	18.0	10.97	30.079	. .	. .
	44	Venus N. L.		3	I–IX.	115 35 13.0	4.9	6.0	6.8	4.0	14.6	8.22	32.440	. .	32.703
	45	Venus S. C.		2	III, VII.	" " "	"	"	"	"	"	"	31.056	. .	31.323
2	46	Sun N. L.		4	I–IV.	106 30 11.2	4.4	5.0	3.1	4.9	11.0	6.60	44.800	. .	45.070
	47	Sun S. L.		4	VI–IX.	107 0 11.0	3.9	5.3	2.9	4.1	10.7	6.32	41.839	. .	42.091
	48	Moon N. L.		5	I–IX.	131 44 70.7	56.9	59.3	58.8	58.1	69.5	62.22	29.534	. .	29.806
	49	*η* Virginis, (Ref.)		3	I, II, IV.	231 9 72.9 / 73.1	52.9 / 53.5	. . / 64.0	59.8 / 60.8	. . / 60.1	75.0 / 75.4	63.93 / 64.48	26.265	. .	26.539
	50	*η* Virginis		3	VII–IX.	128 50 14.2	0.8	2.9	1.4	3.3	14.0	6.10	33.544	. .	33.811
	51	Nadir		4		269 59 72.1	55.9	62.1	59.1	60.5	73.0	63.78	29.853	. .	. .
	52	Lacaille 5503	8.0:	5	I–IX.	164 14 72.9	58.4	65.2	60.4	61.0	71.1	64.83	29.989	. .	30.276
	53	Anon. 13h. 20m. 18s.	9.0:	2	VI, IX.	163 44 72.5	57.2	64.9	59.2	60.6	69.8	64.03	22.453	. .	22.739
	54	Anon. 13h. 27m. 32s.		1	V.	" " "	"	"	"	"	"	"	23.762	. .	24.053
	55	Saturn		3	V–IX.	135 44 71.1	57.6	62.6	57.0	61.0	69.6	63.15	31.964	. .	32.235
	56	Iris		2	III, IX.	152 19 72.1	59.8	65.0	64.0	60.5	71.5	65.48	29.444	. .	29.728
	57	*a* Ophiuchi, (Ref.)		3	IV, VI, IX.	243 44 71.9	57.3	60.0	62.6	65.6	73.1	65.08	26.968	. .	27.241
	58	Jupiter S. L.		3	I–IX.	151 50 12.5	0.7	5.7	3.1	1.0	10.5	5.58	32.445	. .	32.730
	59	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	33.840	. .	34.117
	60	Anon. 17h. 52m. 19s.		3	V–IX.	166 55 12.1	1.0	6.6	5.8	1.9	10.5	6.32	32.098	. .	32.383
	61	Anon. 18h. 15m. 52s.		1	VII.	158 25 12.1	0.5	7.1	3.7	0.4	9.0	5.47	26.944	. .	27.221
	62	Anon. 18h. 18m. 32s.		3	III–VII.	" " "	"	"	"	"	"	"	27.849	. .	28.125
	63	*a* Lyræ		5	I–IX.	90 15 12.2	0.8	6.3	2.7	2.3	12.9	6.20	31.868	. .	32.119
	64	Lacaille 7873		1	V.	168 10 12.6	0.0	6.7	5.7	0.2	9.3	5.75	32.451	. .	32.722
	65	50 Draconis, (Ref.)		2	1, 5.	306 24 73.1	59.5	65.0	60.8	59.5	71.0	64.82	35.504	. .	35.776

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 6.1	— 1 14.2	307 28 53.7	+ 88 35 14.5	+ 103.5	Ha.	At 13h. 38m. 12s., 39m. 4s., and 39m. 54s.
2	30.062	65.0	60.7	— 22.6	— 19.7	340 59 28.8	19 53 8.1	— 81.2		
3										
4	30.158	67.5	74.5	+ 1 55.1		25 12 18.9			N.	Not reliable; too pointed.
5	. .	. .	. .	+ 1 9.0	+ 40.0	25 11 56.6	13 41 42.6			
6	. .	. .	. .	— 2 7.0	23.6	25 58 25.2	12 55 14.0			Very faint. + 0″.90 added for def. illumination.
7	. .	. .	. .	+ 1 33.6	14.3	16 46 55.9				
8	30.156	72.2	77.0	+ 3 12.1	14.8	17 18 32.4	21 50 55.0			
9	30.170	71.0	69.0	— 10.0	1 13.3	52 31 6.3	+ 88 35 14.4	+ 103.6		At 13h. 4m. 18s., 6m. 28s., 7m. 28s., 8m. 43s.,
10	30.180	71.0	68.7	+ 49.5	57.2	45 46 55.5			Ha.	and 10m. 8s.
11	. .	. .	. .	33.6	57.2	45 46 39.6	— 6 53 8.3			
12	30.175	67.5	62.5	1 6.5	1 36.8	59 32 51.2	20 39 12.0	— 23.0	N.	Very faint; rather uncertain.
13										
14	. .	. .	. .	+ 2 10.6	2 7.2	65 54 22.9	27 0 43.7	15.1		
15	30.168	. .	61.1	— 2 33.0	4 10.0	77 26 45.3	38 33 6.1	13.7		
16	. .	. .	. .	3 37.9	2 24.1	68 28 54.6	29 35 15.4	3.6		
17	. .	. .	. .	— 4 5.9	2 24.0	68 28 26.5	— 29 34 47.3	— 2.8		
18	. .	. .	. .	+ 1 8.5	+ 31.2	28 31 46.9	+ 67 25 26.2	+ 31.8		
19	30.162	64.5	59.0	— 1 28.3	— 31.3	331 28 12.1	+ 67 25 27.1			
20	. .	. .	. .	+ 1 44.3	+ 59.9	46 12 53.9	— 7 19 14.7	27.2		Very poor.
21	. .	. .	. .	— 58.5	— 31.4	331 23 38.9	+ 10 17 18.2	35.0		
22	30.167	64.5	58.6	2 1.9	+ 2 57.5	72 16 3.4	— 33 22 24.2	30.1		
23	30.200	68.5	77.8	— 22.1	39.8	25 20 28.8	+ 13 33 10.4		Ha.	
24	. .	. .	. .	+ 21.7						
25	30.190	71.0	82.5	— 2 0.4	14.0	16 38 24.1				
26	. .	. .	. .	29.5	14.5	17 9 55.5	21 59 29.4			
27										
28	. .	. .	. .	— 1 9.6	0.2	0 14 1.7	38 39 37.5	+ 11.7		
29	. .	. .	. .	+ 1 26.2	14.5	17 1 48.4			N.	
30	30.055	70.8	83.3	— 8.2	+ 13.8	16 30 13.9	22 7 38.0			
31	29.995	74.0	79.0	+ 3 17.2	— 17 32.0	37 25 50.7	1 27 48.5		D.	
32	30.004	74.0	76.3	— 59.2	+ 31.2	29 24 51.1	9 28 48.1	— 89.4		
33	. .	. .	75.8	— 1 59.7	+ 44.5	38 48 50.9	0 4 48.3	86.7		Recorded 34r.
34	. .	. .	74.8	+ 1 58.7	— 34.2	328 21 34.4	70 32 4.8	— 105.8		
35	. .	. .	. .	— 12.0	+ 1 12.5	52 31 7.1	88 35 13.6	+ 103.9		At intervals of 1m. from 12h. 54m. 27s. till 12h.
36	30.010	74.0	72.4	4.6	— 1 12.5	307 28 53.1	+ 88 35 13.9			58m. 27s.
37	30.010	73.5	71.3	30.0	+ 56.6	45 45 34.8				
38	. .	. .	. .	45.7	56.6	45 45 19.1	— 6 51 47.8			
39	30.016	71.0	67.8	4 3.9	1 6.7	49 57 11.5	— 11 3 32.3	— 63.9		
40	. .	. .	67.3	27.4	+ 37.1	33 25 18.4	+ 72 18 57.7	70.0		
41	. .	. .	. .	— 2 6.8	— 35.2	327 57 28.3	+ 6 51 7.6	56.9		
42	30.028	70.5	66.7	+ 1 39.3	— 1 31.0	301 40 19.4	— 19 26 1.3	48.5		Evening hazy.
43										
44	30.050	70.0	81.5	— 1 24.7	+ 39.3	25 34 22.8	+ 13 19 16.5		N.	
45	. .	. .	. .	41.5						Cusp still too pointed to be reliable.
46	. .	. .	. .	7 52.3	13.6	16 22 27.9				
47	30.040	73.0	86.4	— 6 18.9	+ 14.1	16 54 1.5	+ 22 15 24.5			
48	30.003	76.0	79.2	+ 6.1	— 20 18.6	41 24 49.7	— 2 31 10.5			
49	. .	. .	. .	+ 1 48.5	— 44.3	321 11 48.1	+ 0 4 47.4	86.7		Microscopes C and E were omitted in reading for the observation. Afterward the circle was turned in the same direction, and the second set of readings made.
50	. .	. .	. .	— 1 59.5	+ 44.3	38 48 50.9	+ 0 4 48.3			
51										
52	30.024	76.0	75.0	— 8.7	3 13.8	74 18 9.9	— 35 24 30.7	75.3		
53	. .	. .	. .	+ 3 47.6	3 8.7	73 52 0.3	34 58 21.1	75.0		Extremely faint; seemed double, but of this am
54	. .	. .	. .	+ 3 7.0	3 8.7	73 51 19.7	34 57 40.5	74.4		not certain.
55	. .	. .	73.6	— 1 10.0	56.3	45 44 49.4	6 51 10.2			
56	30.035	72.0	68.9	+ 8.5	+ 1 46.6	62 22 0.5	— 23 28 21.3			
57	. .	. .	. .	+ 1 26.5	— 27.7	333 46 3.8	+ 12 39 43.1	17.5		
58	. .	. .	. .	— 1 25.5	+ 1 42.7	61 50 22.7				
59	. .	. .	. .	2 9.0	1 42.7	61 49 39.2	— 22 56 21.8			
60	. .	. .	. .	— 1 14.7	3 56.4	76 57 48.0	38 4 8.8	12.6		
61	. .	. .	. .	+ 1 27.1	2 21.5	68 28 54.0	29 35 14.8	3.6		
62	30.033	71.3	67.2	+ 58.8	2 21.4	68 28 25.6	— 29 34 46.4	— 2.7		
63	. .	. .	. .	— 1 6.4	0.2	0 14 0.0	+ 38 39 39.2	+ 11.1		
64	. .	. .	67.1	1 25.3	4 21.4	78 13 1.8	— 39 19 22.6	4.0		
65	. .	. .	. .	— 3 1.0	+ 41.5	36 22 45.3	+ 75 16 24.6	21.1		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrc'd
						° ′ ″	″	″	″	″	″	″	r.	r.	r.
1865.															
June 2	1	Anon. 19h. 16m. 59s.	. .	1	V.	163 30 14.4	1.7	8.9	4.8	2.8	11.5	7.35	29.324	+ 0.271	29.595
	2	Weisse XIX, 1208 .	. .	1	V.	138 0 14.2	2.5	6.5	3.9	1.8	11.0	6.65	32.649	. .	32.920
	3	B. A. C. 6886 . . .	. .	3	III-VII.	162 15 15.1	2.3	9.5	7.2	2.0	12.5	8.10	33.469	. .	33.746
	4	O. Arg. S. 20287 . .	. .	3	III-VII.	153 30 14.0	2.1	7.5	4.8	1.2	11.3	6.82	32.145	. .	32.429
	5	Anon. 20h. 7m. 33s. .	. .	1	VI.	" " "	"	"	"	"	"	"	34.337	. .	34.649
	6	Venus N. L.	. .	3	I-IX.	115 40 14.8	4.9	7.0	7.9	4.8	17.1	9.42	31.814	. .	32.077
	7	Venus S. C.	. .	2	III, VII.	" " "	"	"	"	"	"	"	30.426	. .	30.630
3	8	Sun S. L.	. .	2	I, III.	106 45 14.1	5.9	6.8	7.1	5.7	16.1	9.28	27.382	. .	27.654
	9	Sun N. L.	. .	2	VII, IX.	106 15 14.4	6.2	6.6	8.0	5.9	17.0	9.68	30.414	. .	30.661
	10	α Canis Majoris . .	. .	3	VII-IX.	145 25 16.9	4.2	4.8	5.9	4.8	17.7	9.05	30.809	. .	31.085
	11	Moon N. L.	. .	5	I-IX.	135 40 15.8	4.0	6.2	4.1	6.3	16.6	8.83	29.230	. .	29.504
	12	Lacaille 5382 . . .	. .	5	I-IX.	156 35 15.8	3.1	6.0	5.1	4.4	14.9	8.22	34.660	. .	34.944
	13	α Virginis, (Ref.) .	. .	5	I-IX.	220 39 75.2	59.7	68.1	65.8	64.1	77.5	68.40	30.284	. .	30.550
	14	ζ Virginis	. .	5	I-IX.	128 50 15.9	2.0	4.5	3.0	3.3	15.4	7.35	35.057	. .	35.328
	15	Saturn N. L.	. .	3	I-IX.	135 45 14.9	3.4	5.9	3.8	5.0	5.2	6.37	33.537	. .	33.812
	16	Saturn S. L.	. .	2	III-VII.	" " "	"	"	"	"	"	"	32.994	. .	33.267
	17	Weisse XIII, 583 .	8.0	1	VI.	" " "	"	"	"	"	"	"	29.650	. .	29.921
	18	B. A. C. 4671 . . .	. .	5	I-IX.	155 40 15.1	2.8	6.1	4.3	3.7	13.9	7.65	32.979	. .	33.263
	19	α Bootis, (Ref.) . .	. .	4	I, IV, VI, IX.	251 0 15.0	0.3	8.1	6.1	7.2	19.5	9.37	30.378	. .	30.655
	20	5 Ursæ Minoris, (Ref.)	. .	5	III-VII.	307 25 14.7	1.1	5.0	0.7	1.8	14.6	6.32	32.709	. .	33.011
	21	5 Ursæ Minoris . . .	. .	2	. .	52 35 14.0	1.0	8.9	7.0	5.0	18.2	9.02	27.373	. .	27.389
	22	α^2 Libræ	. .	3	III-VII.	144 20 13.8	0.8	4.0	2.2	1.9	12.8	5.92	27.604	. .	27.878
	23	Anon. 14h. 58m. 35s.	8.0	5	I-IX.	160 44 72.9	59.0	66.0	61.3	60.2	71.3	65.12	26.629	. .	96.916
	24	Anon. 15h. 20m. 47s.	. .	5	I-IX.	167 0 13.0	0.1	5.5	5.4	1.8	12.0	6.30	30.830	. .	31.120
	25	Lacaille 6406 . . .	. .	1	V.	" " "	"	"	"	"	"	"	31.443	. .	31.714
	26	Anon. 15h. 28m. 47s.	8.5	3	IV-VI.	167 30 14.9	2.0	7.0	5.2	2.0	11.9	7.17	33.732	. .	34.006
	27	Nadir 15h. 50m. . .	. .	6	. .	270 0 13.8	0.2	4.3	3.9	2.9	14.9	6.67	29.937	. .	. .
	28	Anon. 15h. 59m. 35s.	7.5	1	IV.	167 40 14.2	1.9	7.0	5.1	2.9	12.1	7.20	42.948	. .	43.224
	29	Anon. 15h. 59m. 34s.	8.5	1	VIII.	" " "	"	"	"	"	"	"	41.473	. .	41.763
	30	Lacaille 6774 . . .	. .	5	I-IX.	163 25 14.5	2.2	7.0	4.8	3.0	13.0	7.42	29.368	. .	29.656
	31	Lacaille 6806 . . .	. .	4	VI-IX.	" " "	"	"	"	"	"	"	26.739	. .	27.024
	32	Lacaille 6821 . . .	. .	3	VII-IX.	" " "	"	"	"	"	"	"	29.645	. .	29.933
	33	Anon. 16h. 52m. 52s.	9.3	5	I-IX.	165 55 14.1	4.0	6.6	7.0	2.8	13.2	7.95	28.319	. .	28.609
	34	Anon. 16h. 54m. 35s.	9.7	1	IX.	" " "	"	"	"	"	"	"	43.758	. .	44.061
	35	Lacaille 7123 . . .	7.8	4	VI-IX.	" " "	"	"	"	"	"	"	35.341	. .	35.628
	36	Iris	10.0	1	V.	152 20 13.8	3.1	7.5	6.0	3.9	13.6	7.98	35.243	. .	35.514
	37	α Ophiuchi, (Ref.) .	. .	5	I-IX.	243 45 14.7	2.5	8.8	7.8	4.9	17.8	9.42	27.069	. .	27.346
	38	Jupiter N. L. . . .	. .	3	I-IX.	151 50 14.0	4.1	7.8	6.8	3.5	13.8	8.33	34.149	. .	34.434
	39	Jupiter S. L. . . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	32.778	. .	33.055
4	40	Moon N. L.	. .	5	I-IX.	139 19 74.6	59.8	63.4	62.2	61.2	72.6	65.63	27.827	. .	28.013
	41	Venus S. C.	. .	3	III-VII.	115 50 14.7	4.9	6.0	6.5	4.0	16.1	8.70	34.726	. .	34.996
	42	Venus N. L.	. .	2	IV, VI.	" " "	"	"	"	"	"	"	36.055	. .	36.324
5	43	Sun N. L.	. .	4	I-IV.	106 0 15.0	5.0	7.0	6.1	6.8	15.9	9.30	27.742	. .	28.011
	44	Sun S. L.	. .	4	VI-IX.	106 35 15.1	6.0	7.5	5.8	7.2	15.8	9.57	34.245	. .	34.498
	45	α Canis Majoris . .	. .	5	I-IX.	145 25 14.9	1.2	2.1	2.1	2.0	15.6	6.32	30.748	. .	31.026
	46	Moon N. L.	. .	5	I-IX.	142 39 74.2	58.9	64.8	61.3	61.7	73.2	65.68	33.553	. .	33.830
	47	Nadir 15h. 20m. . .	. .	3	. .	269 59 75.0	58.2	64.7	61.1	63.1	75.7	66.30	29.934	. .	. .
	48	Nadir 13h. 10m. . .	. .	6	. .	269 54 73.4	59.2	66.3	64.7	60.8	71.3	65.95d	20.343	. .	. .
	49	Nadir	. .	6	. .	270 4 72.5	59.6	66.2	65.1	61.6	71.3	66.05d	39.487	. .	. .
	50	Nadir	. .	6	. .	269 59 72.3	59.2	65.8	64.7	61.3	70.6	65.66d	29.913	. .	. .
	51	Nadir 13h. 50m. . .	. .	6½	. .	269 54 71.6	59.1	65.0	63.9	60.8	69.6	65.00d	20.307	. .	. .
7	52	Lacaille 5503 . .	7.5	3	IV-VI.	164 15 15.0	1.5	7.2	4.9	2.1	12.9	7.27	30.145	. .	30.418
	53	Saturn S. L.	. .	3	I-IX.	135 45 14.7	2.5	6.0	3.8	4.7	13.1	7.47	36.869	. .	37.144
	54	Saturn N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	37.339	. .	37.612
	55	Lacaille 5682 . .	8.0	3	III-VII.	163 50 14.8	1.0	7.2	4.0	2.7	12.9	7.10	25.797	. .	26.075
	56	B. A. C. 4631 . . .	7.0	3	III-VII.	" " "	"	"	"	"	"	"	28.928	. .	29.206
	57	Nadir 15h. 40m. . .	. .	3	. .	270 0 15.2	2.0	7.0	5.5	4.8	15.0	8.25	29.986	. .	. .
	58	Moon N. L.	. .	5	I-IX.	147 20 15.0	1.1	7.2	4.1	1.8	12.2	6.90	29.686	. .	29.966
	59	Jupiter S. L. . . .	. .	3	I-IX.	151 50 14.9	3.9	9.1	6.0	3.9	12.6	8.40	33.926	. .	34.211
	60	Jupiter N. L. . . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	35.242	. .	35.519
	61	Venus N. L.	. .	3	I-IX.	115 50 15.3	5.1	6.1	8.0	4.9	17.0	9.40	27.190	+ 0.286	27.463
	62	Venus S. C.	. .	2	III, VII.	" " "	"	"	"	"	"	"	25.906	. .	26.188
8	63	Sun S. L.	. .	2	I, III.	106 15 15.5	5.9	6.2	7.3	7.6	18.3	10.13	29.461	. .	29.743
	64	Sun N. L.	. .	2	VII, IX.	105 45 15.0	5.5	5.9	7.3	8.5	17.9	10.02	32.386	. .	32.650

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	+ 12.7	+ 3 7.9	73 33 27.9	— 34 39 48.7	+ 16.6	N.	Faint and uncertain.
2	30.045	70.3	66.2	— 1 31.5	1 2.6	47 59 37.7	9 5 58.5	33.1		
3	. .	. .	. .	1 57.4	2 54.0	72 16 4.7	33 22 25.5	30.0		
4	. .	. .	. .	1 15.8	1 52.6	63 30 43.6	24 37 4.4	34.3		Blurred and unsteady.
5	. .	. .	66.8	2 24.5	1 52.4	63 29 34.7	— 24 35 55.5	+ 35.7		
6	. .	. .	. .	1 5.1	39.3	25 39 43.6	+ 13 13 55.6		D.	
7	30.146	72.5	79.5	— 21.7						
8	. .	. .	. .	+ 1 13.6	14.1	16 46 36 9	+ 22 22 49.5			
9	30.150	76.0	84.4	— 20.7	13.6	16 15 2 5				
10	30.130	77.7	86.9	— 34.0	+ 1 18.8	55 25 53.8	— 16 32 14.6	— 2.0		Steady. Microscope F recorded 7″.7.
11	30.127	77.5	77.0	+ 15.5	— 22 52.8	45 17 31.5	6 23 52.3			
12	. .	. .	. .	— 2 34.9	+ 2 7.2	66 34 40.5	27 41 1.3	78.0		
13	. .	. .	. .	17.2	— 1 4.6	310 38 46.6	— 10 27 34.1	81.3		Steady, but badly blurred.
14	. .	. .	. .	2 47.0	+ 44.7	38 48 5.0	+ 0 5 34.2	83.3		
15	. .	. .	. .	1 59.5	56.3	45 44 3.1				
16	. .	. .	. .	1 42.4	56.4	45 44 20.3	— 6 50 32.5			
17	30.134	77.0	75.1	+ 2.5	57.1	45 46 5.9	6 52 26.7	79.6		
18	. .	. .	. .	— 1 42.3	+ 2 2.4	65 40 27.7	— 26 46 48.5	73.4		
19	30.132	76.5	74.1	20.6	— 19.2	340 59 29.5	+ 19 53 8.8	82.0		
20	. .	. .	. .	— 1 34.4	+ 42.6	37 24 14.5	76 17 53.8	87.7		
21	. .	. .	. .	+ 1 21.5	— 42.6	322 35 47.9	+ 76 17 51.3			At 14h. 31m. 26s. and 32m. 26s.
22	. .	. .	. .	1 6.5	+ 1 17.7	54 22 30.1	— 15 28 50.9	67.5		
23	30.126	76.0	73.0	+ 1 36.7	2 38.8	70 49 20.6	31 55 41.4	61.9		
24	. .	. .	. .	— 35.1	3 56.7	77 3 27.9	38 9 48.7	56.4		
25	. .	. .	. .	53.7	3 56.6	77 3 9.2	38 9 30.0	55.8		
26	30.127	75.5	72.3	2 5.5	4 5.7	77 32 7.3	38 38 28.1	54.6		Bar. and ther. at 15h. 36m. Two stars of the 7th mag. following about 1m.
27										
28	. .	. .	. .	6 54.5	4 7.7	77 37 20.4	38 43 41.2	46.9		
29	. .	. .	71.5	— 6 8.7	4 7.9	77 38 6.4	38 44 27.2	46.9		
30	30.120	75.0	71.3	+ 10.8	3 5.8	73 28 24.0	34 34 44.8	44.4		
31	. .	. .	. .	1 33.3	3 6.0	73 29 46.7	34 36 7.5	43.0		
32	. .	. .	. .	2.1	3 5.7	73 28 15.2	34 34 36.0	42.6		
33	. .	. .	. .	+ 43.6	3 39.7	75 59 31.2	37 5 52.0	31.6		
34	. .	. .	. .	— 7 20.7	3 37.6	75 51 24.8	36 57 45.6	31.0		
35	30.122	74.5	70.7	2 56.4	3 38.8	75 55 50.3	37 2 11.1	30.3		
36	. .	. .	. .	— 2 52.8	+ 1 46.4	62 19 1.5	— 23 25 22.3			Bisection uncertain.
37	. .	. .	. .	+ 1 23.2	— 27.7	333 46 4.9	+ 12 39 44.2	17.7		
38	. .	. .	. .	— 2 19.0	+ 1 42.6	61 49 31.9				
39	. .	. .	. .	— 1 35.8	+ 1 42.7	61 50 15.2	— 22 56 14.3			Very steady and well defined.
40	30.098	78.3	78.8	+ 59.4	— 25 12.1	48 55 52.9	— 10 2 13.7		N.	
41	30.160	76.5	86.0	— 2 36.6					Ha.	
42	. .	. .	. .	— 3 18.2	38.7	25 47 29.2	+ 13 6 10.0			
43	. .	. .	. .	+ 1 2.3	13.2	16 1 24.8				
44	30.160	80.0	91.7	— 2 21.0	13.7	16 33 2.2	+ 22 36 25.7			
45	30.140	81.0	92.9	32.2	+ 1 18.0	55 25 52.1	— 16 32 12.9	2.4		
46	30.164	80.5	80.2	2 0.0	— 27 12.3	52 10 53.3	13 17 14.1			
47										
48									N.	
49										
50										For rev. of mic. screw.
51	. .	72.8								
52	30.154	76.5	74.1	13.1	+ 3 14.9	74 18 9.0	35 24 29.8	74.6	Ha.	
53	. .	. .	. .	3 43.9	56.5	45 42 20.0	6 48 33.5			
54	. .	. .	. .	— 3 58.6	56.5	45 42 5.3				
55	. .	. .	. .	+ 2 3.0	3 10.4	73 55 20.5	35 1 41.3	72.5		
56	30.170	76.0	73.7	0 24.9	+ 3 10.1	73 53 42.1	35 0 2.9	— 72.0		
57										
58	30.146	74.5	71.5	+ 0 1.1	— 30 4.4	56 50 3.6	17 56 24.4			
59	. .	. .	. .	— 2 12.0	+ 1 42.4	61 49 38.8				
60	30.146	74.0	71.1	— 2 53.0	1 42.4	61 48 57.8	— 22 55 39.1			
61	. .	. .	. .	+ 1 19.4	17.7	25 51 46.5			D.	
62	30.151	75.0	82.2	1 59.5	17.7	25 52 26.6	+ 13 1 32.1			
63	. .	. .	. .	+ 8.1	13.6	16 15 31.8				
64	30.156	78.7	87.0	— 1 23.1	+ 13.1	15 44 0.0	+ 22 53 53.3			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
June 8	1	α Canis Majoris	..	5	I-IX.	145 25 15.0	1.4	2.0	1.1	2.5	15.0	6.17	30.706	+ 0.286	31.000
	2	α Bootis, (Ref.)	..	5	I-IX.	251 0 15.0	0.1	8.1	5.8	6.8	18.0	8.97	30.301	..	30.598
	3	Nadir 14h. 35m.	..	4	..	270 0 14.8	1.5	5.4	4.9	4.5	15.9	7.83	29.954	..	..
	4	θ Bootis, (Ref.)	..	4	I, IV, VI, IX.	283 35 15.0	0.0	8.0	7.2	4.9	18.0	8.85	30.267	..	30.585
	5	β Ursæ Minoris, (Ref.)	..	5	III-VII.	305 50 15.0	1.4	5.0	2.6	2.8	13.9	6.78	33.237	..	33.551
	6	α Coronæ Borealis, (Ref)	..	5	I-IX.	258 15 15.0	3.0	8.1	8.2	7.1	18.6	10.00	26.461	..	26.760
	7	O. Arg. S. 14864	..	3	III-VII.	155 35 14.2	2.0	6.9	4.3	2.6	12.4	7.07	36.438	..	36.729
	8	O. Arg. S. 15067	..	4	V-IX.	145 35 13.8	1.2	5.5	1.7	2.2	13.0	6.23	31.868	..	32.177
	9	O. Arg. S. 15179	9.0	1	V.	149 55 12.5	0.0	5.1	2.1	0.7	10.1	5.08	38.003	..	38.239
	10	O. Arg. S. 15342	..	5	I-IX.	146 39 71.8	59.0	62.7	60.7	59.1	70.0	63.88	33.766	..	34.060
	11	O. Arg. S. 15398	..	3	III-VII.	" " "	"	"	"	"	"	"	34.838	..	35.127
	12	ν Ophiuchi	..	5	I-IX.	136 55 11.7	1.0	3.9	1.0	1.0	10.6	4.87	26.694	..	26.984
	13	Moon N. L.	..	4	I-IV.	148 25 13.3	0.0	5.1	3.3	0.6	10.8	5.52	31.794	..	32.065
	14	Moon S. L.	..	4	VI-IX.	148 55 14.0	2.2	6.0	5.0	1.6	10.8	6.60	30.116	..	30.433
	15	α Ophiuchi, (Ref.)	..	4	I-IV.	243 45 14.9	1.4	3.9	6.9	4.1	17.1	8.05	27.034	..	27.326
	16	α Ophiuchi	..	3	VII-IX.	116 15 14.7	4.3	7.0	5.0	4.7	15.1	8.47	32.972	..	33.248
	17	Jupiter S. L.	..	5	I-IX.	151 50 13.8	3.0	7.2	5.9	3.1	12.9	7.65	34.183	..	34.440
	18	Jupiter N. L.	..	4	II-VIII.	" " "	"	"	"	"	"	"	35.535	..	35.822
	19	Venus N. L.	..	4	III-IX.	115 55 13.1	2.4	5.9	4.1	2.1	13.7	6.88	37.047	..	37.337
	20	Mercury	..	5	I-IX.	111 44 71.8	60.0	62.8	63.0	59.6	71.8	64.83	27.738	..	28.016
	21	Nadir 4h. 5m.	..	4	..	269 59 71.7	55.3	62.7	60.2	59.7	71.2	63.47	29.834	..	..
9	22	Sun N. L.	..	4	I-IV.	105 40 8.4	4.8	7.8	2.9	5.4	6.0	5.88	32.356	+ 0.205	32.557
	23	Sun S. L.	..	4	VI-IX.	106 10 8.0	5.6	7.4	3.2	5.2	5.5	5.82	29.467	..	29.655
	24	Nadir 5h. 20m.	..	5	..	270 0 7.5	4.0	5.1	4.1	4.5	5.0	5.03	29.944	..	..
	25	ζ Virginis	..	5	I-IX.	128 45 8.9	5.2	3.9	1.0	3.1	4.8	4.48	25.456	..	25.661
	26	Saturn	..	3	V-IX.	135 38 15.8	13.0	12.3	9.0	12.2	11.2	12.42	25.442	..	25.647
						" " 16.2	13.4	13.5	8.1	12.4	16.1				
	27	α Bootis, (Ref.)	..	3	II-IV.	251 0 9.0	3.0	7.5	3.0	6.5	8.1	6.18	30.352	..	30.565
	28	α Bootis	..	4	VI-IX.	109 0 8.6	6.2	5.0	1.8	3.7	5.1	5.07	29.645	..	29.839
	29	Nadir 14h. 20m.	..	3	..	270 0 8.2	2.7	4.6	1.8	3.8	5.4	4.42	29.939	..	..
	30	α Lyræ	..	3	V-IX.	90 15 7.4	7.1	7.6	3.4	5.2	5.5	6.03	31.946	..	32.139
	31	Venus N. L.	..	2	VII, IX.	115 50 7.9	9.1	5.5	6.9	4.0	6.1	6.58	29.474	..	29.666
10	32	Sun N. L.	..	2	I, IV.	105 35 7.5	10.2	6.3	8.0	7.5	7.1	7.77	31.608	..	31.809
	33	Sun S. L.	..	2	V, VIII.	106 5 7.0	9.8	6.0	7.4	5.9	6.1	7.03	28.786	..	28.982
11	34	α Lyræ	..	4	I-VII.	90 15 7.8	9.1	7.9	9.0	4.8	4.5	7.18	31.975	..	32.165
	35	Lacaille 7873	..	2	III, V.	168 10 8.9	8.1	10.0	11.1	3.4	1.4	7.15	32.572	..	32.764
	36	Anon. 18h. 47m. 29s.	..	1	VIII.	168 30 9.2	8.4	9.8	11.5	3.8	2.0	7.45	30.945	..	31.170
	37	Weisse XIX, 187	7.0:	1	V.	137 45 7.1	7.9	5.1	6.6	2.2	0.4	4.88	24.482	..	24.687
	38	Anon. 19h. 17m. 20s.	..	1	V.	163 30 6.8	6.9	8.2	7.9	1.8	0.6	5.37	29.493	..	29.698
	39	Anon. 19h. 20m. 51s.	..	1	IX.	168 24 67.0	66.0	67.4	69.0	61.3	59.4	65.02	31.125	..	31.305
	40	Weisse XIX, 1208	..	2	VII, IX.	138 0 7.0	8.4	6.2	7.2	2.5	1.1	5.40	32.664	..	32.870
	41	Moon N. L.	..	5	I-IX.	145 10 7.5	7.6	6.5	5.9	3.1	1.2	5.30	35.441	..	35.653
	42	Nadir 20h. 10m.	..	4	..	270 0 9.0	8.6	8.9	10.1	5.5	4.5	7.77	30.047	..	..
13	43	Venus N. L.	..	3	V-VII.	115 40 6.8	8.5	3.9	4.1	4.2	5.4	5.48	32.345	+ 0.215	32.556
	44	Venus S. C.	..	1	VIII.	" " "	"	"	"	"	"	"	31.195	..	31.395
14	45	Sun S. L.	..	4	I-IV.	105 50 14.5	15.9	12.2	12.9	15.4	13.2	14.02	27.804	..	28.013
	46	Sun N. L.	..	4	VI-IX.	105 20 15.0	15.5	12.9	12.0	15.2	13.2	13.97	30.689	..	30.889
17	47	Sun N. L.	..	2	II, IV.	105 15 14.0	17.0	11.8	13.8	15.1	14.1	14.30	33.479	+ 0.229	33.704
	48	Sun S. L.	..	2	VI, IX.	105 45 15.9	18.0	13.1	14.8	17.8	14.5	15.68	30.676	..	30.889
	49	Anon. 18h. 33m. 58s.	..	2	III, VIII.	166 49 65.3	62.8	64.1	63.1	61.0	58.9	62.53	34.060	..	34.305
	50	Anon. 18h. 34m. 9s.	..	1	V.	" " "	"	"	"	"	"	"	29.805	..	30.034
18	51	Venus S. C.	..	3	I-IX.	115 10 5.5	7.0	2.1	1.9	2.4	2.8	3.62	28.653	+ 0.237	28.896
	52	Venus N. L.	..	2	III, VII.	" " "	"	"	"	"	"	"	29.698	..	29.927
	53	Mercury, centre	..	5	I-IX.	107 5 6.2	6.2	3.1	1.0	4.9	3.0	4.07	33.830	..	34.057
19	54	Sun S. L.	..	4	I-IV.	105 40 8.0	8.9	4.2	5.5	8.7	7.9	7.20	25.152	..	25.383
	55	Sun N. L.	..	4	VI-IX.	105 10 8.4	8.9	5.0	5.0	8.8	7.9	7.33	27.988	..	28.211
21	56	Nadir 16h. 45m.	..	3	..	270 0 7.0	5.1	5.1	4.2	4.2	4.0	4.93	29.914	..	..
	57	Nadir	..	3	..	269 55 7.1	6.0	4.8	5.0	4.2	3.7	5.13	20.333	..	..
	58	Nadir	..	3	..	270 5 7.1	7.0	5.6	5.1	4.9	5.0	5.78	39.502	..	..
	59	Nadir 17h. 15m.	..	3	..	270 0 7.1	6.1	4.9	4.8	4.1	4.1	5.18	29.926	..	..
22	60	Sun N. L.	..	2	III, IV.	105 10 5.6	5.5	4.0	3.1	4.3	4.2	4.45	28.400	+ 0.246	28.643
	61	Sun S. L.	..	3	VI-VIII.	105 40 6.1	6.9	5.3	3.6	6.2	4.6	5.45	25.650	..	25.887
	62	Schwerd 853	..	3	1-5.	48 40 5.1	4.1	6.0	5.7	4.8	5.0	5.12	30.435	..	30.680

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.132	80.0	88.4	— 31.3	+ 1 18.6	55 25 53.4	— 16 32 14.2	— 2.8	D.	
2	30.126	77.7	75.2	18.7	— 19.2	340 59 31.0	+ 19 53 10.3	82.9		Cloudy.
3										
4	30.128	77.0	74.2	18.4	+ 13.5	13 35 3.9	52 28 43.2	87.6		
5	- -	- -	- -	— 1 51.3	+ 40.2	35 48 55.6	74 42 34.9	82.2		
6	- -	- -	- -	+ 1 41.5	— 11.6	348 16 39.9	+ 27 10 19.2	63.8		
7	- -	- -	73.5	— 3 30.9	+ 2 2.0	65 33 38.1	— 26 39 58.9	52.9		
8	- -	- -	- -	1 8.2	1 21.3	55 35 19.3	16 41 40.1	51.1		Wire VII omitted.
9	- -	- -	- -	4 19.8	1 35.8	59 52 21.0	20 58 41.8	48.8		
10	- -	- -	- -	2 7.3	1 24.6	56 39 21.1	17 45 41.9	47.2		Each recorded 1r. greater. Reobserved June 24 and July 6.
11	- -	- -	- -	— 2 40.7	1 24.6	56 38 47.7	17 45 8.5	46.6		
12	30.128	76.0	72.8	+ 1 34.5	+ 59.7	46 57 39.0	8 3 59.8	42.8		
13	- -	- -	- -	— 1 4.7	— 46 14.0	57 37 46.8				
14	30.128	75.7	72.3	— 13.6	46 27.0	58 8 26.0	— 18 59 27.2			Cor. for defective illumination = + 1″.18.
15	- -	- -	- -	+ 1 23.8	— 27.6	333 46 4.2	+ 12 39 43.5	18.9		
16	- -	- -	- -	— 1 41.8	+ 27.6	26 13 54.2	+ 12 39 45.0	18.9		
17	- -	- -	- -	2 20.4	1 42.2	61 49 29.4			D.	
18	30.127	75.0	71.6	3 2.7	1 42.2	61 48 47.1	— 22 55 29.0			
19	30.153	76.0	81.6	— 3 49.6	38.2	25 51 55.4	+ 13 1 43.8		N.	
20	30.150	76.7	86.1	+ 1 2.2	19.1	21 46 26.1	17 7 13.1			+ 0″.42 added for defective illumination.
21										After this observation diminished reading of A by 7″, of F by 10″, and diminished B by 5″.
22	- -	- -	- -	— 1 20.1	13.0	15 38 58.7				
23	30.127	78.0	87.0	+ 10.8	13.5	16 10 30.1	22 58 54.8			Good.
24										
25	30.071	80.5	79.0	2 16.0	44.3	38 48 4.7	+ 0 5 34.5	83.8		
26	- -	- -	- -	+ 2 16.4	+ 55.7	45 41 24.5	— 6 47 45.3			Cross wires set on 40′ division. Cross wires set on 35′ division.
27	- -	- -	78.0	— 17.7	— 19.0	340 59 29.4	+ 19 53 8.7	— 83.0		
28	- -	- -	78.0	+ 5.1	+ 19.0	19 0 29.1	19 53 10.1			
29										
30	- -	- -	- -	— 1 6.8	0.2	0 13 59.4	38 39 39.8	+ 8.9		
31	30.006	77.0	80.1	+ 10.4	37.9	25 50 54.8	13 2 44.4		D.	Through clouds.
32	29.998	78.7	84.9	— 56.6	12.9	15 34 24.0	23 3 31.1			Through clouds.
33	- -	- -	- -	+ 31.9	13.4	16 5 52.3				Through clouds.
34	- -	- -	- -	— 1 7.8	0.2	0 13 59.5	+ 38 39 39.7	8.3	N.	
35	30.075	69.5	65.7	1 27.2	4 22.5	78 13 2.4	— 39 19 23.2	4.3		
36	- -	- -	- -	— 36.7	4 30.3	78 34 1.0	39 40 21.8	6.1		
37	- -	- -	- -	+ 2 46.5	1 2.4	47 48 53.7	8 55 14.5	17.6		A. R. recorded 56s. too great, but marked with :
38	- -	- -	- -	+ 9.5	3 8.8	73 33 23.6	34 39 44.4	16.5		
39	- -	- -	- -	— 42.7	4 28.8	78 28 51.1	39 35 11.9	17.0		Faint and uncertain. Recorded 5m. 7s. later.
40	- -	- -	- -	1 30.0	+ 1 2.9	47 59 38.3	9 5 59.1	31.7		Whole number rev. not recorded. Time recorded at wire VIII, with note "Not sure whether VII or VIII." Wire VII assumed correct, and also 32r. assumed, to agree with observation on June 2.
41	30.064	68.5	64.1	2 57.2	— 31 15.5	54 35 52.6	— 15 42 13.4			
42										
43	30.083	76.0	80.8	1 20.1	+ 18.4	25 39 3 7			D.	
44	- -	- -	- -	— 43.7	18.4	25 39 40.1	+ 13 14 16.6			Cor. for def. ill. = + 0″.8.
45	- -	- -	- -	+ 1 2.3	13.3	15 51 29.6			Ha.	
46	30.102	78.0	80.5	— 27.9	12.9	15 19 58.9	23 17 55.0			
47	- -	- -	- -	1 56.1	12.7	15 13 30.9			D.	Whole number rev. assumed. Unsteady.
48	30.236	76.5	84.6	27.9	13.2	15 45 0.9	+ 23 24 23.3			
49	- -	- -	- -	2 14.9	3 52.6	76 51 40.2	— 37 58 1.0	2.3	N.	
50	30.090	76.0	73.4	— 1.1	3 53.2	76 53 54.6	— 38 0 15.4	+ 2.4		
51	- -	- -	- -	+ 34.9	18.4	25 10 56.9			Ha.	
52	30.104	77.0	83.5	+ 2.3	18.4	25 10 24.3	+ 13 42 58.2			
53	30.096	79.5	86.0	— 2 7.2	14.7	17 3 11.5	21 50 27.7			+ 0″.07 added for defective illumination.
54	- -	- -	- -	+ 2 24.7	13.0	15 42 44.9				
55	30.086	81.0	88.1	56.0	12.5	15 11 15.8	23 26 38.9			
56										
57										
58										For value of micrometer screw.
59										
60	- -	- -	- -	42.5	12.7	15 10 59.6			N.	Cloudy.
61	30.103	78.0	84.3	+ 2 8.9	+ 13.1	15 42 27.4	23 26 55.7			Cloudy.
62	30.140	76.8	74.2	— 21.3	— 49.0	318 38 54.8	+ 80 14 44.4	— 89.3	D.	

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corr'd
						° ′ ″	″	″	″	″	″	″	r.	r.	r.
1865. June 22	1	Weisse XIV, 1048		5	I–IX.	139 24 65.9	63.9	62.5	60.7	59.8	60.1	62.15	37.575	+ 0.246	37.[illegible]
	2	Weisse XV, 3		5	I–IX.	140 0 8.0	6.0	4.0	3.2	2.2	2.0	4.23	37.390	. .	37.641
	3	O. Arg. S. 14513	8.0	5	I–IX.	151 10 7.8	6.8	6.0	3.0	2.3	2.0	4.65	36.603	. .	36.[illegible]
	4	Anon. 15h. 23m. 22s.	8.5	1	VI.	161 0 8.1	5.4	8.5	3.3	1.2	2.1	4.75	28.404	. .	28.652
	5	Anon. 15h. 28m. 19s.	8.0	1	II.	" " "	"	"	"	"	"	"	25.622	. .	25.[illegible]
	6	Anon. 15h. 28m. 23s.	8.5	1	V.	" " "	"	"	"	"	"	"	31.955	. .	32.201
	7	Anon. 15h. 29m. 4s.	8.5	1	IX.	" " "	"	"	"	"	"	"	42.925	. .	43.19[illegible]
	8	O. Arg. S. 15061		3	III–VII.	145 20 8.8	6.7	5.9	2.3	3.5	4.0	5.20	34.939	. .	35.[illegible]
	9	O. Arg. S. 15294		1	V.	145 54 62.8	62.0	60.2	57.5	62.8	57.6	58.82	36.163	. .	36.409
	10	Weisse XVI, 539		5	I–IX.	137 29 62.8	61.8	60.6	58.0	58.5	57.3	59.83	35.353	. .	35.[illegible]
	11	Weisse XVI, 845		5	I–IX.	" " "	"	"	"	"	"	"	28.806	. .	29.056
	12	Nadir 17h. 15m.		4	. .	269 59 63.0	61.3	61.0	59.5	59.9	60.1	60.80	29.767	. .	. .
	13	Jupiter N. L.		4	I,II.VIII,IX.	151 44 63.0	61.5	62.8	59.1	57.9	57.5	60.30	31.436	. .	31.69[illegible]
	14	Jupiter S. L.		3	IV–VI.	" " "	"	"	"	"	"	"	30.002	. .	30.249
	15	O. Arg. S. 17249	8.0	5	I–IX.	155 39 63.3	62.8	62.7	60.0	58.9	57.3	60.83	34.865	. .	35.124
	16	O. Arg. S. 17349	8.0	1	V.	" " "	"	"	"	"	"	"	19.012	. .	19.2[illegible]
	17	B. A. C. 6059	7.0	3	VI, VIII, IX.	" " "	"	"	"	"	"	"	37.217	. .	37.474
	18	O. Arg. S. 17419	8.5	1	V.	" " "	"	"	"	"	"	"	29.647	. .	29.[illegible]
	19	α Lyræ		5	I–IX.	90 15 7.9	8.1	8.8	5.1	6.4	5.6	6.98	32.102	. .	32.3[illegible]
23	20	α Bootis		3	I–III.	108 59 64.5	62.2	60.3	57.8	59.9	61.5	61.03	29.542	. .	29.79[illegible]
	21	α Bootis, (Ref.)		4	VI–IX.	251 0 8.0	1.3	7.1	1.1	6.1	6.0	4.93	30.181	. .	30.433
	22	5 Ursæ Minoris		3	III–IV.	52 35 7.5	4.7	8.8	4.9	6.8	6.9	6.60	27.343	. .	27.550
	23	5 Ursæ Minoris, (Ref.)		3	VI–VII.	307 24 66.1	61.7	64.0	55.1	61.2	60.1	61.37	32.396	. .	32.641
	24	Nadir 14h. 40m.		4	. .	270 0 8.2	3.2	5.4	0.9	4.7	4.4	4.47	29.893	. .	. .
	25	Venus N. L.		4	I,II,VIII,IX.	114 30 9.8	12.9	10.0	10.0	7.5	7.9	9.68	30.931	+ 0.258	31.179
	26	Venus S. C.		3	IV–VI.	" " "	"	"	"	"	"	"	29.884	. .	30.141
24	27	Sun S. L.		2	I, III.	105 45 9.0	11.6	8.6	8.0	10.0	8.4	9.27	31.707	. .	31.955
	28	Sun N. L.		1	IX.	105 10 11.0	12.6	10.2	10.0	12.0	10.8	11.10	25.144	. .	25.376
	29	ϵ Bootis		5	I–IX.	101 17 9.9	7.0	5.0	3.1	5.1	7.4	6.25	34.360	+ 0.265	34.612
	30	O. Arg. S. 14080	7.0:	5	I–IX.	154 42 10.2	7.4	7.5	2.0	4.3	5.9	6.22	41.343	. .	41.620
	31	Anon. 14h. 58m. 35s.		3	III–VII.	160 47 10.0	6.8	9.0	3.4	3.8	5.6	6.43	30.461	. .	30.732
	32	3 Serpentis		2	III, VII.	123 27 10.3	8.0	8.3	3.6	5.0	7.4	7.10	31.035	. .	31.299
	33	Anon. 15h. 20m. 47s.	9.0	1	V.	166 57 11.0	8.3	10.0	7.7	6.0	6.8	8.30	25.070	. .	25.335
	34	Lacaille 6406	8.0	1	V.	" " "	"	"	"	"	"	"	25.715	. .	25.981
	35	Anon. 15h. 28m. 20s.		1	I.	161 2 11.8	8.1	11.3	5.8	5.0	6.3	8.05	29.599	. .	29.900
	36	Anon. 15h. 28m. 22s.		3	IV–VI.	" " "	"	"	"	"	"	"	35.870	. .	36.137
	37	O. Arg. S. 14864		1	VI.	155 37 11.5	9.5	10.0	5.8	6.9	7.0	8.45	40.385	. .	40.651
	38	π Scorpii		5	I–IX.	154 42 10.9	8.9	9.0	3.5	5.5	6.6	7.40	43.156	. .	43.433
	39	O. Arg. S. 15134	9.0	3	III–VII.	" " "	"	"	"	"	"	"	38.047	. .	38.317
	40	O. Arg. S. 15342		3	III–VII.	146 42 11.1	8.7	8.0	5.0	5.9	6.8	7.58	37.803	. .	38.071
	41	O. Arg. S. 15398		4	I,III,VII,IX.	" " "	"	"	"	"	"	"	38.843	. .	39.118
	42	Nadir 16h. 40m.		3	. .	270 2 10.9	8.8	9.0	7.0	8.2	9.1	8.83	33.847	. .	. .
	43	Anon. 16h. 52m. 9s.	9.5	1	V.	165 55 7.8	8.0	6.3	4.7	3.4	3.4	5.60	25.118	+ 0.258	25.376
	44	Anon. 16h. 52m. 52s.	8.0	1	VI.	" " "	"	"	"	"	"	"	28.237	. .	28.497
	45	Anon. 16h. 54m. 36s.	8.5	1	V.	" " "	"	"	"	"	"	"	43.698	. .	43.956
	46	Lacaille 7123	7.0	3	III–VII.	" " "	"	"	"	"	"	"	35.131	. .	35.396
	47	Anon. 16h. 58m. 25s.	8.0	2	VI, VIII.	" " "	"	"	"	"	"	"	25.472	. .	25.740
	48	Lacaille 7245	7.5	3	III–VII.	" " "	"	"	"	"	"	"	29.993	. .	30.258
	49	Anon. 17h. 17m. 52s.	9.0	1	V.	149 30 7.6	5.3	6.1	2.0	2.8	1.0	4.13	27.415	. .	27.673
	50	Jupiter S. L.		4	III,V,VI,VII	151 45 7.7	5.9	6.5	2.7	3.4	2.7	4.82	31.096	. .	31.358
	51	Jupiter N. L.		1	IX.	" " "	"	"	"	"	"	"	32.468	. .	32.742
	52	B. A. C. 6024		5	I–IX.	155 55 7.7	5.2	5.0	3.0	2.5	2.0	4.23	34.986	. .	35.257
	53	O. Arg. S. 17419	9.0	1	VII.	155 40 6.9	5.2	5.3	2.7	2.5	1.7	4.05	29.729	. .	29.992
	54	Anon. 17h. 52m. 16s.	7.5	4	VI–IX.	167 0 6.8	6.1	7.8	6.1	4.0	2.4	5.53	41.603	. .	41.877
	55	Nadir 18h. 10m.		3	. .	270 0 7.9	5.5	4.1	4.0	3.5	5.0	5.00	29.904	. .	. .
26	56	Nadir 16h. 0m.		3	. .	270 0 7.7	6.7	7.1	5.9	3.8	3.5	5.78	29.926	. .	. .
	57	Jupiter S. L.		2	III, VII.	151 45 9.4	8.0	9.6	7.4	3.3	1.9	6.60	32.125	. .	32.389
	58	Jupiter N. L.		2	V, IX.	" " "	"	"	"	"	"	"	33.514	. .	33.780
	59	Venus S. C.		4	II,III,VII,VIII.	114 0 9.0	11.3	9.5	10.7	6.1	5.2	8.63	26.835	. .	27.097
	60	Venus N. L.		3	IV–VI.	" " "	"	"	"	"	"	"	27.901	. .	28.158
27	61	Sun N. L.		2	I, III.	105 20 9.9	11.4	8.2	9.9	8.6	6.8	9.13	32.815	. .	33.069
	62	Sun S. L.		2	VII, IX.	105 50 9.8	13.0	9.0	9.8	9.8	7.2	9.77	29.964	. .	30.207
	63	Nadir 14h. 30m.		4	. .	270 0 8.7	6.8	6.0	5.0	5.0	5.0	6.08	29.931	. .	. .
	64	ϵ Bootis		3	I–V.	101 15 9.3	7.1	5.9	5.6	5.0	5.4	6.38	30.522	. .	30.771
	65	60 Hydræ	7.0	5	I–IX.	156 25 9.5	8.4	7.1	5.5	3.3	3.3	6.18	33.613	. .	33.[illegible]

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 4 5.3	+ 1 4.9	49 22 1.7	— 10 28 22.5	— 66.5	D.	
2	. .	. .	. .	3 59.5	1 6.3	49 57 11.0	11 3 31.8	65.0		
3	. .	. .	. .	— 3 35.0	1 40.8	61 8 10.4	22 14 31.2	59.1		
4	. .	. .	. .	+ 42.3	2 40.7	71 3 27.7	32 9 48.5	55.3		
5	. .	. .	. .	+ 2 8.8	2 40.8	71 4 54.3	32 11 15.1	54.1		Whole number rev. assumed.
6	. .	. .	. .	— 1 9.0	2 40.4	71 1 36.1	32 7 56.9	54.1		
7	30.150	76.2	73.5	6 53.6	2 39.9	70 55 51.0	32 2 11.8	53.9		
8	. .	. .	. .	2 42.6	1 20.5	55 18 43.1	16 25 3.9	51.5		
9	30.144	76.0	72.9	3 20.9	1 22.3	55 53 0.2	16 59 21.0	48.1		Barometer and thermometer at 16h. 30m.
10	. .	. .	72.0	— 2 55.6	1 0.9	47 28 5.1	8 34 25.9	41.0		
11	. .	. .	. .	+ 29.6	1 1.1	47 31 30.5	8 37 51.3	35.8		
12										
13	. .	. .	. .	— 53.2	1 42.1	61 45 49.2	22 52 32.7			
14	. .	. .	. .	7.8	1 42.2	61 46 34.7				
15	. .	. .	. .	— 2 40.6	2 3.1	65 39 23.3	26 45 44.1	15.0		
16	. .	. .	. .	+ 5 36.7	2 4.0	65 47 41.5	26 54 2.3	13.1		
17	. .	. .	. .	— 3 54.2	2 3.0	65 38 9.6	26 44 30.4	12.8		
18	30.138	74.5	70.6	+ 3.3	2 3.4	65 42 7.5	— 26 48 28.3	— 12.1		
19	. .	. .	.	— 1 13.0	0.2	0 13 54.1	+ 38 39 45.1	+ 4.8	N.	
20	. .	. .	. .	+ 6.9	+ 19.2	19 0 27.1	19 53 12.1	— 84.9		
21	30.238	78.5	77.0	— 13.6	— 19.2	340 59 32.1	19 53 11.4			
22	. .	. .	. .	+ 1 16.8	— 42.6	322 35 40.8	76 17 58.4	91.7		
23	. .	. .	76.5	— 1 24.0	+ 42.6	37 24 19.9	76 17 59.2			
24										
25	. .	. .	. .	36.9	18.5	24 29 51.2	14 23 31.4		D.	
26	30.250	75.0	82.5	4.4	18.5	24 30 23.7				
27	. .	. .	. .	— 1 1.3	13.2	15 44 21.1	23 25 4.2			
28	30.250	78.0	85.1	+ 2 24.9	12.7	15 12 48.7				
29	30.180	79.2	76.9	— 2 24.5	11.0	11 14 52.7	+ 27 38 46.5	80.9		The microscope micrometer screws were misplaced by two revolutions.
30	. .	. .	. .	6 4.2	1 56.5	64 37 58.5	— 25 44 19.3	64.2		
31	. .	. .	. .	22.9	2 38.0	70 49 21.5	— 31 55 42.3	60.8		
32	. .	. .	. .	— 40.7	36.7	33 27 3.1	+ 5 26 36.1	67.8		
33	. .	. .	. .	+ 2 26.2	3 55.8	77 3 30.3	— 38 9 51.1	54.5		
34	30.178	78.5	75.4	2 6.0	3 55.8	77 3 10.1	38 9 30.8	54.0		
35	. .	. .	. .	+ 3.1	2 40.5	71 4 51.6	32 11 12.4	54.0		
36	. .	. .	. .	— 3 12.3	2 40.0	71 1 35.7	32 7 56.5	54.0		
37	. .	. .	. .	5 33.8	2 1.7	65 33 36.3	26 39 57.1	52.4		
38	. .	. .	. .	7 1.0	1 56.7	64 37 3.1	25 43 23.9	49.5		
39	. .	. .	. .	4 20.7	1 56.9	64 39 43.6	25 46 4.4	48.5		
40	. .	. .	. .	4 13.0	1 24.5	56 39 19.0	17 45 39.8	47.4		
41	30.168	78.0	74.7	— 4 45.8	1 24.4	56 38 46.1	17 45 6.9	46.7		
42										
43	. .	. .	. .	+ 2 24.9	3 39.0	76 1 9.5	37 7 30.3	30.1		After this observation, turned back the microscope screws.
44	. .	. .	. .	+ 47.1	3 38.6	75 59 31.3	37 5 52.1	29.9		
45	. .	. .	. .	— 7 17.4	3 36.5	75 51 24.7	36 57 45.5	29.4		
46	. .	. .	. .	— 2 49.1	3 37.7	75 55 54.2	37 2 15.0	28.6		
47	. .	. .	74.1	+ 2 13.5	3 39.0	76 0 58.1	37 7 18.9	28.2		
48	. .	. .	. .	— 8.1	3 38.4	75 58 35.9	37 4 56.7	23.4		
49	. .	. .	. .	+ 1 12.9	1 34.6	59 32 51.6	20 39 12.4	23.4		
50	. .	. .	. .	— 42.6	1 41.7	61 46 3.9	22 52 3.0			
51	. .	. .	. .	1 25.9	1 41.6	61 45 20.5				
52	. .	. .	. .	— 2 44.8	2 4.0	65 54 23.4	27 0 44.2	14.8		Recorded A. R. 17h. 41m. 29s. Supposed error of about —30s.
53	. .	. .	. .	+ 0.2	2 2.8	65 42 7.0	26 48 27.8	12.0		
54	30.140	76.7	73.5	— 6 12.2	3 54.8	76 57 48.1	38 4 8.9	11.1		
55										
56										
57	29.870	71.0	66.1	1 14.9	1 43.2	61 45 34.9			Ha.	
58	. .	. .	. .	— 1 58.5	1 43.2	61 44 51.3	— 22 51 33.9			
59	. .	. .	. .	+ 1 31.3	18.5	24 1 58.4			D.	
60	29.990	72.0	73.7	+ 57.7	18.5	24 1 24.8	+ 14 51 57.3			
61	. .	. .	. .	— 1 35.9	12.9	15 18 46.1				Rather unsteady.
62	30.010	76.2	78.4	6.5	13.4	15 50 16.6	23 19 7.9			Rather unsteady.
63										
64	30.012	75.5	72.2	24.2	11.1	11 14 53.2	+ 27 38 46.0	81.3		
65	. .	. .	. .	— 2 1.7	+ 2 6.7	66 25 11.1	— 27 31 31.9	— 62.6		Unsteady. Whole rev. recorded, 34.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrc'd
						° ′ ″	″	″	″	″	″	″	r.	r.	r.
1865.															
June 27	1	Anon. 14h. 56m. 3s.	8.0	3	V–IX.	156 25 9.5	8.4	7.1	5.5	3.3	3.3	6.18	32.847	+ 0.258	33.114
	2	Venus S. C.		3	I–IX.	113 50 9.0	11.1	9.1	10.3	6.9	4.1	8.42	26.925		27.174
	3	Venus N. L.		2	III, VII.	" " "	"	"	"	"	"	"	27.864		28.118
28	4	Sun S. L.		4	I–IV.	105 55 4.7	6.1	4.1	2.8	4.5	1.4	3.93	34.090		34.338
	5	Sun N. L.		4	VI–IX.	105 20 7.0	7.8	5.9	4.1	6.1	3.4	5.72	27.402		27.649
	6	Nadir 15h. 15m.		3		270 0 6.8	3.5	4.0	0.6	3.1	3.0	3.50	29.862		
	7	Anon. 15h. 28m. 48s.	8.0	3	III–VII.	167 24 67.5	65.0	66.6	63.5	63.0	59.8	64.23	23.928		24.194
	8	Lacaille 6447	6.5	1	VII.	" " "	"	"	"	"	"	"	15.521		15.789
	9	Lacaille 6448	6.5	1	IX.	" " "	"	"	"	"	"	"	19.098		19.390
	10	Lacaille 6765	9.0	1	V.	163 25 10.0	8.5	9.4	5.1	5.5	3.6	7.02	40.079		40.337
	11	Lacaille 6774	7.5	2	VII, IX.	" " "	"	"	"	"	"	"	29.261		29.537
	12	Lacaille 6821	8.0	3	III–VII.	" " "	"	"	"	"	"	"	29.564		29.829
	13	Anon. 16h. 33m. 53s.	9.0	1	VI.	168 0 9.9	7.0	9.1	6.2	5.0	3.0	6.70	21.790		22.051
	14	Anon. 16h. 35m. 34s.	7.5	3	V–IX.	" " "	"	"	"	"	"	"	34.712		34.995
	15	Anon. 16h. 37m. 37s.	6.5	3	V–IX.	" " "	"	"	"	"	"	"	35.739		36.012
	16	α^1 Herculis, (Ref.)		4	I–IV.	245 40 10.1	7.0	10.3	8.0	7.2	9.7	8.72	30.544		30.811
	17	α^1 Herculis		4	VI–IX.	114 20 9.8	9.4	8.8	5.9	6.5	5.8	7.70	29.469		29.718
	18	Jupiter S. L.		5	I–IX.	151 45 9.7	8.0	8.8	5.9	5.0	3.6	6.83	33.103		33.352
	19	Jupiter N. L.		4	II–VIII.	" " "	"	"	"	"	"	"	34.466		34.731
	20	ω Draconis, (Ref.)		4	I–IV.	299 55 9.2	7.8	7.8	2.2	4.7	3.2	5.82	29.455		29.778
	21	ω Draconis		4	VI–IX.	60 5 9.0	6.1	10.8	7.2	7.9	8.0	8.17	30.502		30.695
	22	α Lyræ		3	III–VII.	90 15 8.9	8.1	8.5	5.9	5.8	6.1	7.22	32.151		32.401
	23	Venus N. L.		4	I, II. VIII. IX.	113 40 8.9	8.9	6.9	5.9	8.0	4.9	7.25	28.178		28.436
	24	Venus S. C.		3	IV–VI.	" " "	"	"	"	"	"	"	27.219		27.476
29	25	Sun N. L.		2	I, III.	105 25 8.0	9.7	5.0	5.3	7.8	7.3	7.18	30.862		31.107
	26	Sun S. L.		2	VII, IX.	105 55 8.0	10.0	6.0	5.7	8.6	7.8	7.68	28.004		28.247
	27	Nadir 16h. 5m.		4		270 0 8.7	5.0	4.0	1.2	5.0	6.0	4.98	29.894		
	28	Venus S. C.		3	I–IX.	113 30 11.8	9.4	8.1	6.1	7.0	7.8	8.37	28.076		28.325
	29	Venus N. L.		2	III, VII.	" " "	"	"	"	"	"	"	28.979		29.233
30	30	Sun S. L.		4	I–IV.	106 0 7.5	6.0	3.5	0.1	5.5	5.8	4.73	30.664		30.911
	31	Sun N. L.		4	VI–IX.	105 30 9.1	8.7	6.3	2.5	9.2	8.4	7.37	33.566		33.814
July 2	32	Venus S. C.		3	I–IX.	113 0 9.9	11.1	11.4	11.0	5.3	5.0	8.95	32.152		32.405
	33	Venus N. L.		2	III, VII.	" " "	"	"	"	"	"	"	33.070		33.324
3	34	5 Libræ		5	I–IX.	143 44 67.3	63.0	64.7	61.0	59.8	61.1	62.82	28.285		28.550
	35	Moon N. L.		5	I–IX.	144 10 6.9	3.2	4.6	0.5	0.0	0.1	2.55	30.953		31.214
	36	ι^1 Libræ		3	III–VII.	148 10 10.0	5.2	7.2	3.2	1.7	2.1	4.90	31.870		32.131
	37	β Libræ		3	IV–VI.	137 45 10.0	6.8	6.8	3.8	3.6	3.0	5.67	28.742		29.000
	38	ζ^1 Libræ		3	III–VII.	145 10 9.5	6.1	6.9	2.0	2.9	3.0	5.07	35.694		35.955
	39	Nadir 17h.		3		270 0 9.9	6.1	8.0	6.0	4.3	5.0	6.55	29.951		
	40	Jupiter S. L.		3	I–IX.	151 45 9.8	7.1	8.8	5.2	3.0	2.1	6.00	35.518		35.790
	41	Jupiter N. L.		2	III. VII.	" " "	"	"	"	"	"	"	36.938		37.202
	42	B. A. C. 5989		3	III–VII.	152 30 10.2	8.0	9.5	6.9	3.7	3.1	6.90	32.748		33.010
	43	α Lyræ		3	III–VII.	90 15 9.9	9.2	10.7	8.9	6.4	6.2	8.55	32.246		32.496
5	44	Nadir 16h. 15m.		3		270 0 9.8	6.2	7.1	3.6	5.7	5.9	6.38	29.926	+ 0.272	
	45	ω Ophiuchi		5	I–IX.	150 5 9.1	6.1	9.0	3.5	3.0	2.4	5.52	34.658		34.940
	46	Moon N. L.		3	III–VII.	148 0 10.0	6.6	7.9	3.8	3.0	3.2	5.75	30.166		30.441
	47	O. Arg. S. 16213	8.0	1	V.	149 5 9.2	5.7	7.0	2.8	2.3	1.4	4.73	27.872		28.144
	48	O. Arg. S. 16503	9.0	1	II.	158 55 9.0	6.9	9.0	5.5	3.4	2.8	6.10	24.896		25.169
	49	B. A. C. 5809	7.0	2	IV, VI.	" " "	"	"	"	"	"	"	31.264		31.539
	50	B. A. C. 5820	8.0	1	VI.	" " "	"	"	"	"	"	"	35.860		36.134
	51	ν Ophiuchi		3	III–VII.	126 5 9.7	7.8	8.3	3.0	5.1	3.9	6.30	25.797		26.069
	52	α Lyræ		3	III–VII.	90 15 9.5	8.7	9.1	6.0	6.3	7.1	7.78	32.206		32.470
6	53	Sun N. L.		2	I, II.	116 0 9.9	12.0	9.3	10.0	7.7	6.6	9.25	33.582		33.839
	54	Sun S. L.		3	V–IX.	116 30 11.1	13.6	11.0	11.2	9.0	7.9	10.63	30.790		31.055
	55	Anon. 14h. 58m. 35s.		5	I–IX.	160 45 10.9	8.2	11.2	6.8	4.2	4.5	7.63	26.650		26.938
	56	β Libræ		3	III–VII.	137 45 10.1	8.9	7.5	5.0	4.1	3.8	6.57	28.789		29.063
	57	μ^1 Bootis		2	II, V.	91 4 56.4	56.0	56.1	54.8	53.3	54.0	55.10	24.731		24.994
	58	Lalande 28159		1	VIII.	" " "	"	"	"	"	"	"	31.279		31.524
	59	O. Arg. S. 14736	8.0	5	I–IX.	152 15 6.3	5.0	5.9	3.3	0.3	1.0	3.63	32.895		33.178
	60	42 Libræ	6.0	1	IX.	" " "	"	"	"	"	"	"	30.697		30.945
	61	O. Arg. S. 15067		5	I–IX.	145 35 8.0	7.0	6.8	4.8	2.2	3.1	5.32	31.944		32.223
	62	O. Arg. S. 15134		5	I–IX.	154 40 7.1	6.0	6.3	2.4	0.9	1.5	4.03	34.079		34.363
	63	O. Arg. S. 15342		5	I–IX.	146 40 7.1	5.3	5.0	2.6	0.9	0.8	3.62	33.854		34.134
	64	O. Arg. S. 15398		5	I–IX.	" " "	"	"	"	"	"	"	34.879		35.159

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.032	75.0	72.2	— 1 37.6	+ 2 6.9	66 25 35.4	— 27 31 56.2	— 62.2	D.	Barometer and thermometer at 15h. 23m.
2	30.132	71.5	76.5	+ 1 28.6	18.4	23 51 55.4	+ 15 1 58.4		Ha.	
3	- -	- -	- -	+ 58.9	18.3	23 51 25.6				
4	30.154	77.0	82.1	— 2 16.0	13.4	15 53 1.3	+ 23 16 22.5			
5	- -	- -	- -	+ 1 13.7	12.8	15 21 32.2				
6										
7	- -	- -	- -	3 2.0	4 5.0	77 32 11.2	— 38 38 32.0	52.2		
8	- -	- -	- -	7 25.4	4 6.4	77 36 36.0	38 42 56.8	51.9		
9	30.122	76.5	73.8	+ 5 32.5	4 5.8	77 34 42.5	38 41 3.3	51.9		
10	- -	- -	- -	— 5 24.0	3 4.2	73 22 47.2	34 29 8.0	42.7		
11	- -	- -	- -	+ 14.5	3 5.3	73 28 26.8	34 34 47.6	42.5		
12	30.124	76.0	72.4	5.3	3 5.3	73 28 17.6	34 34 38.4	40.6		
13	- -	- -	- -	+ 4 9.1	4 17.9	78 8 33.7	39 14 54.5	34.8		
14	30.118	75.5	71.9	— 2 36.2	4 15.7	78 1 46.1	39 8 6.9	34.3		
15	- -	- -	- -	3 8.4	+ 4 15.5	78 1 13.8	— 39 7 34.6	33.7		
16	- -	- -	- -	— 25.4	— 25.3	335 39 18.0	+ 14 32 57.3	30.6		
17	- -	- -	- -	+ 8.8	+ 25.3	24 20 41.8	+ 14 32 57.4			
18	- -	- -	- -	— 1 45.7	1 42.0	61 45 3.1	— 22 51 2.3			
19	- -	- -	- -	— 2 28.3	1 41.9	61 44 20.4				
20	- -	- -	- -	+ 7.0	+ 32.2	29 55 45.0	+ 68 49 24.3	— 21.7		
21	30.118	75.0	71.1	— 21.8	— 32.2	330 4 14.1	68 49 25.1			
22	- -	- -	- -	— 1 15.3	+ 0.2	0 13 52.1	38 39 47.1	+ 3.1		
23	- -	- -	- -	+ 49.3	18.2	23 41 14.7	15 12 9.3		D.	Recorded 33 whole rev.
24	30.110	76.0	80.9	+ 1 19.1	18.2	23 41 44.5				Recorded 32 whole rev.
25	- -	- -	- -	— 34.7	12.8	15 24 45.2	23 13 8.7			
26	30.092	80.0	87.0	+ 54.9	13.2	15 56 15.7				
27	- -	- -	- -							
28	- -	- -	- -	52.5	17.9	23 31 18.7	15 22 34.5			
29	30.036	79.5	84.8	+ 24.0	17.9	23 30 50.2				
30	- -	- -	- -	— 28.6	13.1	15 59 49.2	23 9 34.4			
31	30.040	83.5	92.0	1 59.5	12.7	15 28 20.5				
32	30.184	73.5	76.1	1 15.3	18.1	22 59 11.7	+ 15 54 41.8			
33	- -	- -	- -	— 1 44.2	18.1	22 58 42.8				
34	30.124	78.5	75.0	+ 45.4	+ 1 15.8	53 47 4.0	— 14 53 24.8	— 69.6		
35	- -	- -	- -	— 38.2	— 28 6.6	53 41 17.7	14 47 38.5			
36	- -	- -	- -	— 1 6.8	+ 1 29.5	58 10 27.6	19 16 48.4	62.6		
37	- -	- -	- -	+ 31.4	1 1.3	47 46 38.3	8 52 59.1	64.4		
38	30.130	77.5	73.7	— 3 6.6	1 19.9	55 8 18.3	16 14 39.1	59.6		
39										
40	- -	- -	- -	3 1.5	1 42.1	61 43 46.6	22 49 45.3			
41	30.134	75.5	70.4	3 45.7	1 42.1	61 43 2.4				
42	- -	- -	70.2	1 34.3	1 47.4	62 30 20.0	— 23 36 40.8	— 16.9		
43	- -	- -	- -	1 18.2	0.2	0 13 50.5	+ 38 39 48.7	+ 1.5		
44										
45	30.146	79.5	77.1	2 34.8	+ 1 35.9	60 4 6.6	— 21 10 27.4	— 40.7		
46	- -	- -	- -	13.8	— 30 39.1	57 29 12.8	18 35 33.6			
47	30.158	79.5	76.7	+ 58.2	+ 1 32.5	59 7 35.4	20 13 56.2	31.7		
48	- -	- -	- -	+ 2 30.8	2 23.3	69 0 0.2	30 6 21.0	25.7		
49	- -	- -	- -	— 48.2	2 22.9	68 56 40.8	30 3 1.6	25.6		
50	- -	- -	- -	— 3 12.3	2 22.7	68 54 16.5	— 30 0 37.3	25.1		
51	30.172	79.0	75.4	+ 2 3.2	40.6	36 7 50.1	+ 2 45 49.1	— 18.1		Clouded up; troubled by clouds all the evening.
52	- -	- -	- -	— 1 17.4	0.3	0 13 50.6	38 39 48.6	+ 0.8		
53	- -	- -	- -	2 0.3	13.6	15 58 22.5	+ 22 39 32.2		D.	Hazy.
54	30.246	76.0	80.8	— 33.1	14.0	16 29 51.5				Hazy.
55	30.142	78.2	75.6	+ 1 36.0	2 38.0	70 49 21.6	— 31 55 42.4	— 60.5		
56	- -	- -	- -	+ 29.4	1 1.2	47 46 37.1	— 8 52 57.9	64.6		
57	- -	- -	- -	— 2 36.5	1.0	1 2 19.6	+ 37 51 19.6	74.4		Hit my head on the end of the instrument. Recorded 24 whole rev.
58	- -	- -	- -	47.8	1.1	1 4 8.4	+ 37 49 30.8	74.4		
59	- -	- -	- -	1 39.6	1 45.3	62 15 9.3	— 23 21 30.1	55.0		
60	30.144	78.0	75.0	30.9	1 45.4	62 16 18.1	23 22 38.9	54.8		
61	- -	- -	- -	1 9.7	1 21.2	55 35 16.8	16 41 37.6	51.7		
62	- -	- -	- -	2 16.8	1 57.0	64 39 44.2	25 46 5.0	48.4		
63	- -	- -	- -	2 9.6	1 24.4	56 39 18.4	17 45 39.2	47.7		
64	- -	- -	- -	— 2 41.7	+ 1 24.4	56 38 46.3	— 17 45 7.1	— 47.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed	Nadir cor.	Corre'd
						o ′ ″	″	″	″	″	″	″	r.	r.	r.
1865.															
July 6	1	O. Arg. S. 15659		5	I-IX.	153 5 7.0	4.9	6.7	4.9	1.1	2.1	4.45	28.935	+ 0.272	29.219
	2	Weisse XVI, 539		5	I-IX.	137 30 8.0	7.2	6.0	3.7	2.7	1.8	4.90	35.544		35.829
	3	O. Arg. S. 16045		5	I-IX.	148 0 7.7	5.8	7.0	4.1	0.7	1.3	4.43	30.702		30.983
	4	Weisse XVI, 958	8.0	5	I-IX.	133 0 7.0	7.5	6.5	5.0	1.8	3.0	5.13	26.867		29.141
	5	30 Ophiuchi	6.0	5	I-IX.	" " "	"	"	"	"	"	"	41.962		42.236
	6	B. A. C. 5791	7.5	3	I-V.	154 0 6.6	6.0	6.5	3.0	0.3	0.0	3.73	36.069		36.353
	7	O. Arg. S. 16450	9.0	1	IX.	" " "	"	"	"	"	"	"	39.179		39.469
	8	Jupiter S. L.		4	I, II. VIII, IX.	151 45 7.4	4.1	7.0	5.5	1.9	1.0	4.48	38.305		38.593
	9	Jupiter N. L.		5	III-VII.	" " "	"	"	"	"	"	"	36.912		37.197
	10	Moon N. L.		4	I-IV.	148 34 67.5	65.9	67.0	64.2	60.6	59.7	64.15	38.015		38.300
	11	Moon S. L.		4	VI-IX.	149 5 8.0	6.0	6.3	4.7	0.3	0.1	4.23	35.692		35.969
	12	Nadir 17h. 50m.		4		270 0 8.3	6.7	6.7	6.1	3.9	4.3	6.00	29.915		
	13	α Lyræ		5	I-IX.	90 15 8.1	8.0	8.2	6.9	4.5	6.1	6.97	32.240		32.493
	14	Venus N. L.		3	I-IX.	112 15 10.1	10.6	8.7	8.4	6.8	7.0	8.60	31.167		31.429
	15	Venus S. C.		2	III, VII.	" " "	"	"	"	"	"	"	30.292		30.569
7	16	Sun N. L.		4	I-IV.	106 5 7.5	6.4	4.8	2.2	5.2	5.5	5.27	30.788		31.048
	17	Sun S. L.		4	VI-IX.	106 35 7.2	6.0	4.8	0.7	5.6	5.0	4.88	27.857		28.121
	18	Mercury		3	IV-VI.	105 35 6.8	6.1	4.8	1.6	6.9	5.8	5.33	32.276		32.547
	19	Jupiter N. L.		3	I-IX.	151 39 65.7	60.3	63.0	57.5	58.7	60.9	61.02	28.990		29.276
	20	Jupiter S. L.		2	III, VII.	" " "	"	"	"	"	"	"	27.626		27.904
	21	μ Herculis		4	I-IV.	101 5 10.5	5.8	5.9	2.8	5.7	7.2	6.32	29.667		29.929
	22	μ Herculis, (Ref.)		4	VI-IX.	258 55 8.1	0.3	5.9	1.8	3.9	6.8	4.47	30.177		30.459
	23	Moon N. L.		4	I-IV.	147 55 9.1	3.4	6.0	0.0	1.5	2.6	3.77	30.083		30.422
	24	Moon S. L.		4	VI-IX.	148 24 68.1	62.0	65.4	59.0	60.1	60.3	62.48	27.183		27.404
	25	Nadir 18h. 50m.		3		270 0 8.8	3.5	5.4	1.3	4.3	5.9	4.87	29.892		
8	26	Sun S. L.		2	I, III.	106 40 8.7	10.3	7.7	5.9	6.5	8.0	7.85	24.599	+ 0.280	24.862
	27	Sun N. L.		2	VII, IX.	106 10 11.0	13.0	10.0	8.2	10.7	10.1	10.50	27.538		27.809
	28	Mercury		4	VI-IX.	105 55 10.5	11.9	8.8	8.0	9.5	10.0	9.78	33.659		33.927
	29	Nadir 17h. 40m.		4		270 0 9.0	7.1	8.1	6.8	5.0	6.8	7.13	29.940		
12	30	Jupiter S. L.		3	I-IX.	151 40 10.4	9.9	10.1	8.1	5.2	4.1	7.97	30.169		30.463
	31	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	31.529		31.815
	32	Nadir 17h. 45m.		3		270 0 10.1	8.7	9.9	7.8	7.9	6.6	8.50	29.990		
	33	Venus N. L.		4	I, II, VIII, IX.	111 10 10.3	12.0	8.3	9.9	7.4	7.0	9.15	32.962		33.230
	34	Venus S. C.		3	IV-VI.	" " "	"	"	"	"	"	"	32 062		32.341
13	35	Sun N. L.		2	I, III.	106 50 10.7	12.4	8.3	7.2	8.3	8.7	9.27	28.150		28.411
	36	Sun S. L.		3	V-IX.	107 20 12.1	13.1	10.6	8.3	10.9	10.0	10.83	25.249		25.520
	37	Mercury		5	I-IX.	108 0 8.1	8.9	5.0	3.1	5.5	6.6	6.20	32.462		32.732
	38	O. Arg. S. 15061		5	I-IX.	145 20 8.4	8.0	7.0	4.1	3.8	3.6	5.82	34.942		35.230
	39	O. Arg. S. 15296	9.0	3	III-VII.	145 55 9.0	9.7	8.3	6.6	3.9	4.1	6.93	36.338		36.620
	40	O. Arg. S. 15713	8.0	1	V.	149 20 8.3	7.6	9.0	6.4	2.7	2.0	6.00	30.542		30.822
	41	B. A. C. 5671		5	I-IX.	159 15 8.5	8.0	10.3	8.2	2.9	2.2	6.68	33.952		34.247
	42	O. Arg. S. 16121	6.5	3	V-IX.	" " "	"	"	"	"	"	"	34.062		34.352
	43	α' Herculis		5	I-IX.	114 20 9.0	11.0	10.0	9.8	5.6	6.8	8.70	29.557		29.830
	44	Jupiter S. L.		4	I, II, VIII, IX.	151 40 8.8	9.0	10.0	8.1	3.0	3.1	7.00	30.600		30.896
	45	Jupiter N. L.		3	IV-VI.	" " "	"	"	"	"	"	"	32.035		32.316
	46	O. Arg. S. 17728	9.0	5	I-IX.	148 15 8.3	8.3	9.9	7.8	1.6	1.7	6.27	30.861		31.150
	47	O. Arg. S. 17809		3	III-VII.	" " "	"	"	"	"	"	"	21.167		21.450
	48	B. A. C. 6292		5	I-IX.	147 55 8.9	8.7	10.0	8.0	1.9	2.3	6.63	36.808		37.097
	49	α Lyræ		5	I-IX.	90 15 10.0	12.3	11.8	12.8	6.9	8.0	10.30	32.369		32.629
	50	Anon. 18h. 47m. 31s.		3	III-VII.	168 35 9.9	9.1	12.5	12.8	3.0	3.7	8.50	40.470		40.758
	51	Lacaille 7932		1	V.	" " "	"	"	"	"	"	"	36.639		36.919
	52	Weisse XVIII, 1314	9.0	1	V.	141 45 9.0	9.0	11.0	10.7	3.8	3.2	7.78	40.641		40.921
	53	B. A. C. 6564		5	I-IX.	137 5 8.9	10.1	9.1	9.0	3.3	2.5	7.15	35.504		35.785
	54	Nadir 19h. 20m.		3		270 0 9.0	10.3	10.5	11.1	6.0	5.0	8.65	29.999		
14	55	Sun S. L.		4	I-IV.	107 30 8.8	11.6	10.9	9.0	6.8	4.8	8.65	26.976		27.242
	56	Sun N. L.		4	VI-IX.	107 0 7.8	11.4	10.0	8.4	6.8	3.8	8.03	29.836		30.111
	57	Mercury		1	V.	108 30 6.3	9.4	6.8	6.1	4.2	2.9	5.95	32.747		33.027
	58	Jupiter S. L.		3	I-IX.	151 39 66.4	66.0	67.2	66.0	61.1	59.3	64.33	30.939		31.205
	59	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	32.295		32.569
	60	1 Aquilæ, (Ref.)		3	V-IX.	222 50 7.9	4.6	11.1	8.5	1.8	3.8	6.28	34.805		35.080
	61	Nadir		4		270 0 7.1	7.6	8.6	8.0	4.5	2.1	6.32	29.921		
17	62	O. Arg. S. 15790	8.0	1	V.	157 35 7.1	7.2	7.9	6.0	3.0	1.0	5.37	40.928		41.208
	63	B. A. C. 5562	7.0	1	V.	" " "	"	"	"	"	"	"	36.422		36.702
	64	Lacaille 6987	7.5	3	III-VII.	162 40 7.5	8.1	8.5	6.8	3.0	2.6	6.08	35.491		35.777
	65	β Camelopardis, S. P.		5	I-IX.	9 15 8.1	9.2	11.7	9.8	6.1	1.2	7.68	33.142		33.466

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	+ 24.5	+ 1 49.4	63 7 18.3	— 24 13 39.1	— 40.1	D.	
2	. .	. .	. .	— 3 2.4	1 0.7	47 28 3.2	8 34 24.0	41.9		
3	30.143	77.0	74.0	— 30.8	1 29.0	58 1 2.6	19 7 23.4	34.8		
4	. .	. .	. .	+ 26.9	52.0	43 1 24.0	4 7 44.8	35.3		
5	. .	. .	. .	— 6 23.5	51.8	42 54 33.4	4 0 54.2	34.4		
6	. .	. .	. .	3 19.1	1 53.7	63 58 38.3	25 4 59.1	27.4		Whole rev. recorded, 35.
7	. .	. .	. .	4 56.8	1 53.5	63 57 0.4	25 3 21.2	— 27.3		
8	. .	. .	. .	4 29.3	1 41.6	61 42 16.7	22 48 59.5			
9	. .	. .	. .	3 45.2	+ 1 41.5	61 43 0.7				
10	. .	. .	. .	4 20.1	— 46 47.2	57 43 56.8	— 19 5 48.0			
11	30.180	76.5	73.3	3 7.1	— 46 59.5	58 14 57.6				Correction for def. illumination = + 2″.17.
12										
13	. .	. .	. .	1 18.1	+ 0.2	0 13 49.0	+ 38 39 50.2	+ 0.5		
14	30.069	77.5	87.6	44.8	17.1	22 14 40.9	16 38 44.5		N.	
15	. .	. .	. .	17.6	17.1	22 15 8.1				
16	30.058	86.0	94.0	— 32.8	13.1	16 4 45.5	22 33 7.8			
17	. .	. .	. .	+ 58.9	13.6	16 36 17.3				
18	. .	. .	94.8	— 1 19.8	13.2	15 33 58.7	+ 23 19 40.5			
19	30.017	83.0	81.1	+ 22.7	1 39.6	61 42 3.3	— 22 48 45.6			
20	. .	. .	. .	1 5.7	1 39.6	61 42 46.3				
21	. .	. .	. .	+ 2.2	+ 10.7	11 5 19.2	+ 27 48 20.0	— 21.0		
22	. .	. .	. .	— 14.4	— 10.7	348 54 39.3	+ 27 48 18.6			Tenths of rev. recorded, 7.
23	. .	. .	. .	— 13.2	47 6.7	57 7 43.8	— 18 29 44.4			
24	30.019	82.3	79.4	+ 1 21.4	— 47 20.4	57 39 3.4				Cor. for def. illumination = + 1″.42.
25										
26	. .	. .	. .	2 41.0	+ 13.7	16 43 2.5	+ 22 26 21.8		D.	
27	30.024	88.5	92.2	+ 1 8.6	13.3	16 11 32.4				
28	30.016	85.0	94.0	— 2 3.1	13.5	15 53 20.1	+ 23 0 19.1			
29										
30	. .	. .	. .	14.5	1 41.4	61 41 34.8	— 22 47 34.4		Ha.	
31	29.992	74.0	70.9	56.9	1 41.3	61 40 52.3				
32										
33	. .	. .	. .	1 41.2	16.8	21 8 44.7	+ 17 44 40.4		D.	
34	30.001	74.0	78.6	— 1 13.4	16.8	21 9 12.5				
35	. .	. .	. .	+ 49.8	14.2	16 51 13.2	~~21 46 39.7~~			
36	30.015	79.5	81.7	+ 2 20.4	14.6	17 ~~22~~ 45.8				
37	30.005	80.0	82.8	— 1 25.6	15.7	17 58 56.3	+ 20 54 42.9			Unsteady.
38	. .	. .	68.0	2 43.9	1 21.1	55 18 43.0	— 16 25 3.8	51.9		
39	30.080	72.5	67.2	3 27.5	1 23.0	55 53 2.4	16 59 23.2	48.4		Barometer recorded 29.980.
40	. .	. .	. .	25.8	1 34.9	59 21 15.1	20 27 35.9	40.7		
41	. .	. .	. .	2 13.1	2 27.8	69 15 21.3	30 21 42.1	31.7		
42	. .	. .	. .	— 2 16.4	2 27.9	69 15 18.1	— 30 21 38.9	31.1		
43	. .	. .	. .	+ 5.3	25.6	24 20 39.6	+ 14 32 59.6	33.2		
44	30.088	70.0	64.9	— 28.1	1 43.0	61 41 21.9	— 22 47 20.4			Barometer recorded 29.988.
45	. .	. .	. .	1 12.6	1 42.9	61 40 37.3				
46	. .	. .	. .	— 36.0	1 31.4	58 16 1.6	19 22 22.4	8.6		
47	30.080	69.0	63.8	+ 4 28.0	1 31.8	58 21 6.0	19 27 26.8	7.6		Inches and tenths of barometer noted with special care.
48	. .	. .	. .	— 3 42.4	1 30.1	57 52 54.3	— 18 59 15.1	1.0		
49	. .	. .	. .	1 22.4	0.2	0 13 48.1	+ 38 39 51.1	— 1.4		
50	. .	. .	. .	5 37.2	4 32.1	78 34 3.4	— 39 40 24.2	+ 8.8		
51	. .	. .	. .	3 36.8	4 32.9	78 36 4.5	39 42 25.3	9.6		
52	. .	. .	. .	5 42.3	1 11.9	51 40 37.3	12 46 58.1	8.8		
53	30.090	67.7	62.0	— 3 1.4	1 1.0	47 3 6.7	— 8 9 27.5	+ 13.2		
54										
55	. .	. .	. .	+ 1 26.4	15.1	17 31 50.1	+ 21 37 34.6		N.	
56	30.162	72.0	74.1	— 3.5	14.6	17 0 19.1				
57	30.149	72.7	76.1	1 34.9	16.5	18 28 47.5	+ 20 24 51.7			Cor. for defective illumination = + 0″.04.
58	. .	. .	. .	37.8	1 43.2	61 41 9.7	— 22 47 9.1			
59	30.124	69.0	64.0	1 20.5	+ 1 43.2	61 40 27.0				
60	30.109	67.0	61.5	2 39.2	— 1 1.6	312 46 25.4	8 19 55.3	— 0.5		
61										
62	. .	. .	. .	5 51.3	+ 2 14.8	67 31 28.8	28 37 49.6	36.8	Ha.	
63	29.958	71.0	66.7	3 30.0	2 15.0	67 33 50.3	28 40 11.1	33.5		
64	. .	. .	. .	3 1.1	+ 2 57.6	72 40 2.5	— 33 46 23.3	— 32.6		[pected so near the horizon.
65	29.962	70.5	65.8	— 1 48.6	— 5 32.5	279 7 46.5	+ 60 14 7.3	+ 43.3		Rather unsteady, but as good as could be ex-

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrected
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
July 17	1	Nadir 17h. 10m.		3		270 0 7.9	7.9	8.1	6.9	5.3	4.2	6.72	29.932	+ 0.280	
	2	Jupiter S. L.		3	I-IX.	151 40 7.9	8.7	9.2	6.7	4.2	2.1	6.47	32.143		32.437
	3	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	33.504		33.79[illegible]
	4	B. A. C. 5943	8.0	1	V.	157 15 8.1	9.1	9.4	7.0	4.7	2.2	6.75	34.998		35.27[illegible]
	5	B. A. C. 5952	8.0	1	VI.	" " "	"	"	"	"	"	"	37.680		37.962
	6	O. Arg. S. 17210	8.0	3	III-VII.	149 40 8.6	8.9	10.0	7.3	4.4	2.1	6.88	32.056		32.339
	7	α Lyræ		3	III-VII.	90 15 8.2	10.4	11.0	9.6	7.0	6.1	8.72	32.364		32.636
	8	Venus S. C.		3	I-IX.	110 15 7.0	9.5	8.2	7.5	3.9	0.7	6.13	26.448		26.717
	9	Venus N. L.		2	III, VII.	" " "	"	"	"	"	"	"	27.214		27.4[illegible]
18	10	Sun N. L.		4	I-IV.	107 40 6.5	8.6	6.9	5.0	5.3	2.5	5.80	29.898		30.163
	11	Sun S. L.		4	VI-IX.	108 10 7.4	9.4	6.9	4.9	5.1	2.9	6.10	26.995		27.272
	12	Mercury		3	I-V.	110 40 6.9	4.4	4.1	1.2	2.8	1.2	3.43	30.770		31.032
	13	Nadir 9h. 20m.		3		270 0 8.2	6.2	6.9	4.5	5.8	3.8	5.90	29.912		
	14	β Draconis, (Ref.)		4	I-IV.	283 30 9.7	8.6	10.5	7.2	7.3	5.6	8.15	28.871		29.1[illegible]
	15	β Draconis		4	VI-IX.	76 30 8.9	7.9	11.2	9.1	9.5	6.2	8.80	31.120		31.306
	16	μ Herculis		4	I-IV.	101 5 8.1	6.5	6.2	4.7	4.9	3.5	5.65	29.721		29.991
	17	μ Herculis, (Ref.)		4	VI-IX.	258 55 8.4	5.8	9.1	7 6	7.3	5.6	7.30	30.160		30.4[illegible]
	18	Nadir 18h. 50m.		4		270 0 7.4	6.2	7.1	5.2	5.1	2.9	5.65	29.902		
19	19	Venus S. C.		4	I,II,VIII.IX.	110 0 6.1	7.2	4.0	3.0	3.9	3.2	4.57	35.043	+ 0.291	35.3[illegible]
	20	Venus N. L.		3	IV-VI.	" " "	"	"	"	"	"	"	35.833		36.1[illegible]
20	21	Sun N. L.		2	I, III.	108 5 6.1	7.1	3.5	1.0	4.0	4.5	4.37	35.333		35.6[illegible]
	22	Sun S. L.		2	VII, IX.	108 35 6.0	7.2	3.2	1.0	4.2	4.8	4.40	32.460		32.7[illegible]
	23	Mercury		5	I-IX.	111 50 6.0	5.7	2.0	0.2	3.0	4.4	3.55	29.144		29.4[illegible]
	24	B. A. C. 5314		3	III-VII.	154 25 9.4	4.8	5.7	0.9	3.0	4.1	4.65	37.564		37.8[illegible]
	25	Lacaille 6818		4	VI-IX.	163 45 9.0	6.9	7.9	3.0	4.1	5.7	6.10	35.499		35.8[illegible]
	26	Weisse XVI, 539		5	I-IX.	137 30 9.0	7.9	5.5	1.7	5.1	4.8	5.67	35.577		35.8[illegible]
	27	Lalande 30671		5	I-IX.	133 50 9.1	7 0	6.0	2.3	6.0	7.8	6.37	34.006		34.2[illegible]
	28	30 Ophiuchi		5	I-IX.	132 55 9.3	8.9	6.2	3.3	5.0	6.9	6.60	32.404		32.6[illegible]
	29	Schwerd 1014		3	VI-VII.	50 40 8.5	8.1	10.8	7.0	8.3	10.0	8.78	35.410		35.6[illegible]
	30	Jupiter N. L.		4	I,II,VIII,IX.	151 40 8.8	6.6	7.0	2.5	3.5	4.1	5.42	34.430		34.7[illegible]
	31	Jupiter S. L.		3	IV-VI.	" " "	"	"	"	"	"	"	33.116		33.4[illegible]
	32	Weisse XVII, 755		3	II, IV, V.	136 50 8.3	7.0	5.0	1.0	4.1	4.8	5.03	33.866		34.1[illegible]
	33	Nadir 18h.		4		270 0 8.0	5.0	4.8	2.5	4.8	6.0	5.18	29.876		
	34	α Lyræ		5	I-IX.	90 15 6.9	6.0	6.5	3.1	4.9	7.1	5.75	32.263		32.5[illegible]
	35	θ Serpentis, (1st *)		2	I, III.	124 50 6.8	5.7	5.0	0.8	2.2	4.0	4.08	28.132		28.4[illegible]
	36	θ Serpentis, (2d *)		3	V-IX.	" " "	"	"	"	"	"	"	27.977		28.2[illegible]
	37	δ Draconis, (Ref.)		4	I-IV.	298 30 6.9	5.7	5.6	8.2	2.6	2.1	5.18	26.745		27.0[illegible]
	38	δ Draconis		4	VI-IX.	61 30 6.1	5.0	7.0	4.0	4.6	7.6	5.72	33.004		33.2[illegible]
	39	γ Aquilæ, (Ref.)		4	I-IV.	241 25 7.1	3.0	6.1	3.1	4.2	6.0	4.92	31.163		31.461
	40	γ Aquilæ		2	VIII, IX.	118 35 7.4	6.3	3.9	2.2	3.3	4.0	4.52	28.677		28.9[illegible]
	41	α Aquilæ, (Ref.)		3	VI, VIII, IX.	239 35 8.3	4.9	9.0	6.0	6.4	8.0	7.10	24.063		24.3[illegible]
	42	Venus N. L.		2	VI, VIII.	109 49 23.1	23.9	22.4	21.3	22.1	19.4	22.03	33.404		33.6[illegible]
	43	Venus S. C.		2	VII, IX.	" " "	"	"	"	"	"	"	32.668		32.9[illegible]
21	44	Sun S. L.		4	I-IV.	108 45 7.1	6.2	4.0	1.8	4.4	5.6	4.85	29.482		29.757
	45	Sun N. L.		4	VI-IX.	108 15 7.0	7.1	4.0	0.5	3.7	4.9	4.53	32.361		32.650
	46	Nadir 8h. 30m.		4		269 59 67.9	60.4	63.6	57.2	62.2	64.2	62.58	29.798		
	47	Mercury, centre		3	III-VII.	112 24 67.0	65.1	63.1	59.1	64.1	64.3	63.78	26.510		26.79[illegible]
22	48	Sun N. L.		3	V-IX.	108 24 66.3	66.3	63.3	59.7	63.8	65.8	64.20	28.640		28.9[illegible]
	49	Mercury		2	I, VI.	113 4 66.0	63.2	61.2	57.9	61.6	64.1	62.33	32.400		32.669
	50	Jupiter S. L.		3	IV-VI.	151 39 65.4	63.2	64.0	59.9	59.6	61.2	62.22	33.548		33.8[illegible]
	51	Jupiter N. L.		3	VII-IX.	" " "	"	"	"	"	"	"	34.874		35.1[illegible]
	52	Weisse XVII, 697	9.0	1	I.	136 50 7.2	6.2	5.0	0.9	2.5	4.0	4.30	29.892		30.1[illegible]
	53	Weisse XVII, 755	8.0	1	VII.	" " "	"	"	"	"	"	"	33.815		34.106
	54	Nadir		4		270 0 6.5	5.0	5.5	2.6	3.2	5.0	4.63	29.848		
24	55	Sun N. L.		4	I-IV.	108 50 8.0	6.1	4.0	1.5	2.8	3.2	4.27	29.001	+ 0.280	29.2[illegible]
	56	Sun S. L.		4	VI-IX.	109 20 11.1	11.3	8.9	6.4	8.2	7.9	8.97	26.170		26.4[illegible]
25	57	Jupiter S. L.		3	I-IX.	151 34 66.9	62.5	65.5	59.8	59.9	61.2	62.63	24.738		25.0[illegible]
	58	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	26.087		26.3[illegible]
	59	B. A. C. 5961	7.7	5	I-IX.	157 40 7.8	3.0	5.9	0.6	0.4	1.5	3.20	24.888		25.1[illegible]
	60	γ Ophiuchi	3.7	5	I-IX.	126 4 68.3	64.8	65.6	59.8	62.2	63.3	64.00	25.767		26.0[illegible]
	61	Weisse (2) XVII, 1601	8.5	5	I-IX.	110 30 9.9	7.0	7.3	2.9	5.4	5.6	6.35	25.910		26.1[illegible]
	62	W'se XVIII, 374, N. *		2	IV, VI.	135 30 9.2	6.0	6.2	1.2	3.9	5.1	5.27	24.561		24.8[illegible]
	63	W'se XVIII, 374, S. *		1	V.	" " "	"	"	"	"	"	"	24.362		24.6[illegible]

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1									Ha.	
2	29.971	70.0	65.4	— 1 16.4	+ 1 42.4	61 40 32.4	— 22 46 32.0			
3	. .	. .	. .	1 58.8	1 42.4	61 39 50.0				
4	. .	. .	. .	2 45.4	2 13.4	67 14 34.7	28 20 55.5	— 18.2		
5	. .	. .	. .	4 9.5	2 13.2	67 13 10.4	28 19 31.2	17.8		
6	29.975	69.5	65.4	1 13.3	1 36.1	59 40 29.6	— 20 46 50.4	16.1		
7	. .	. .	. .	— 1 22.6	0.2	0 13 46.3	+ 38 39 52.9	2.6		
8	30.052	67.5	70.8	+ 1 42.9	16.6	20 17 5.6	18 36 45.6		N.	
9	. .	. .	. .	+ 1 18.7	16.6	20 16 41.4				
10	. .	. .	. .	— 5.1	15.1	17 40 15.8	20 57 37.7			
11	30.057	73.0	76.4	+ 1 25.5	15.6	18 11 47.2				
12	30.047	74.0	78.5	— 32.3	18.5	20 39 49.6	18 13 49.6			Interrupted by clouds. + 0″.09 added for defective illumination.
13										
14	. .	. .	. .	+ 25.5	+ 13.5	13 30 47.1	52 24 26.4	31.6		
15	30.005	70.5	66.9	— 42.8	— 13.5	346 29 12.5	52 24 26.7			
16	. .	. .	. .	+ 0.3	+ 11.0	11 5 16.9	27 48 22.3	23.5		
17	. .	. .	. .	— 14.1	— 11.0	348 54 42.2	27 48 21.5			
18										
19	. .	. .	. .	2 46.8	+ 16.0	19 57 33.7	18 56 18.0		D.	Blurred at I and II; good at VIII and IX. Gave double weight to the latter. Cor. for def. illumination = + 0″.1.
20	29.956	77.0	80.2	3 11.9	16.0	19 57 8.6				
21	. .	. .	. .	2 55.7	15.1	18 2 23.7	20 35 30.4			
22	30.005	80.2	84.3	— 1 26.1	15.6	18 33 53.9				
23	30.010	82.0	84.2	+ 18.0	19.3	21 50 40.8	+ 17 2 58.4			+ 0″.12 added for defective illumination.
24	. .	. .	. .	— 4 6.3	1 54.4	64 22 52.7	— 25 29 13.5	48.1		
25	30.066	80.0	77.7	3 1.9	3 6.4	73 45 10.6	34 51 31.4	39.6		
26	. .	. .	. .	3 4.0	1 0.2	47 28 1.8	8 34 22.6	42.7		
27	30.070	79.7	76.8	2 14.8	53.0	43 48 44.5	4 55 5.3	38.3		
28	. .	. .	. .	1 24.5	+ 51.4	42 54 33 4	— 4 0 54.2	35.6		
29	. .	. .	. .	2 57.2	— 45.5	320 36 26.0	+ 78 17 13.2	41.5		
30	30.081	79.0	75.0	2 28.5	+ 1 40.8	61 39 17.7	— 22 45 59.3			
31	. .	. .	. .	1 46.8	1 40.8	61 39 59.4				
32	. .	. .	. .	2 10.4	59.2	46 48 53.8	— 7 55 14.6	18.8		Hazy. Whole rev. recorded, 34. Reobserved July 22 and August 14 and 19.
33										
34	. .	. .	. .	— 1 19.4	0.2	0 13 46.5	+ 38 39 52,7	— 3,5		
35	. .	. .	. .	+ 49.4	38.8	34 51 32.2	4 2 7.0	+ 5.7		
36	30.076	76.7	72.9	54.5	38.8	34 51 37.3	4 2 1.9	5,7		
37	. .	. .	. .	+ 1 31.0	+ 30.3	28 32 6.4	67 25 45.7	14.2		
38	. .	. .	. .	— 1 41.3	— 30.3	331 27 54.1	67 25 45.1	14.2		
39	. .	. .	. .	45.8	— 30.4	331 23 48.7	10 17 28,0	24,4		
40	. .	. .	. .	+ 32.7	+ 30.4	28 36 7.6	10 17 31,6	24,4		
41	30.028	75.5	72.0	+ 2 56.9	— 32.7	329 37 31,3	8 31 10,6	+ 26,0		
42	30.135	76.5	83.0	— 1 55.4	+ 15,9	19 47 42,5	19 5 44.4		N.	
43	. .	. .	. .	— 1 32.0	15.9	19 48 6.9				
44	. .	. .	. .	+ 7.6	15,7	18 45 28.1	20 23 56.9			
45	30.147	82.5	90.6	— 1 23.1	15.2	18 13 56.6				
46										
47	30.138	83.5	92.6	+ 1 40.4	19.7	22 27 3.8	16 26 35.4		Ha.	+ 0″.14 added for defective illumination.
48	30.118	86.7	90.3	+ 33.5	16 2.4	18 41 40.1	20 11 59,1		D.	Behind clouds when it entered the field.
49	30.112	87.5	90.0	— 1 23.7	20.3	23 3 58.9	+ 15 49 40.3			Interrupted by clouds. + 0″.15 added for defective illumination.
50	. .	. .	. .	2 0.4	1 40.5	61 39 42.3	— 22 45 42.2			
51	30.136	81.0	77.3	2 42.2	1 40.5	61 39 0.5				
52	. .	. .	. .	6.1	59.1	46 50 57.3	7 57 18.1	— 19.8		Faint and very uncertain. Whole rev. not recorded.
53	. .	. .	. .	— 2 8.7	59.0	46 48 54.6	— 7 55 15.4	18.9		Whole rev. not recorded. This and preceding reobserved August 14 and 19.
54										
55	. .	. .	. .	+ 23.0	15.7	18 50 42.9	+ 19 47 9.5		Ha.	
56	30.130	83.0	91,8	1 51.3	16.2	19 22 16.4				
57	. .	. .	. .	2 35.7	1 39.5	61 39 17.8	— 22 45 17.6		N.	
58	29.971	83.0	80.0	1 53.7	1 39.5	61 38 35.8				
59	. .	. .	. .	2 31.0	2 12.9	67 44 47.1	— 28 51 7.9	16.8		
60	. .	. .	. .	2 3.9	40.0	36 7 47.9	+ 2 45 51.3	20.4		
61	. .	. .	79.8	1 59.7	20.6	20 32 26.6	+ 18 21 12.6	19.8		Double. Angle 15°. Distance 5″. Observed middle point of the two.
62	. .	. .	. .	2 41.7	55.9	45 33 42.8	— 6 40 3.6	5.3		
63	. .	. .	. .	+ 2 47.9	+ 55.9	45 33 49.0	— 6 40 9.8	— 5.3		Companion of preceding. Angle about 90°.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed	Nadir cor.	Corrc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
July 25	1	Weisse XVIII, 570	9.3	3	III, V, VIII.	140 15 9.6	6.2	7.0	3.2	3.8	3.5	5.55	29.280	+ 0.280	29.562
	2	*a* Lyræ		3	V–IX.	90 15 11.2	8.9	10.9	5.6	7.9	9.8	9.05	32.396		32.657
	3	Nadir 18h. 50m.		4		270 0 9.0	5.5	7.3	3.0	5.8	5.2	5.97	29.905		
	4	Anon. 0h. 38m. 1s.		1	V.	126 25 9.5	7.8	8.8	4.9	3.5	3.4	6.32	29.912		30.192
	5	Neptune		1	V.	126 5 10.1	8.2	9.2	4.9	4.0	4.1	6.75	25.607		25.887
	6	Venus S. L.		3	I–IX.	109 5 10.4	11.0	8.7	8.0	5.9	6.2	8.37	30.677		30.946
	7	Venus N. L.		2	III, VII.	" " "	"	"	"	"	"	"	31.393		31.669
26	8	Sun S. L.		4	I–IV.	109 50 9.8	9.7	7.5	6.1	6.1	6.8	7.67	33.463		33.736
	9	Sun N. L.		4	VI–IX.	109 15 8.8	8.8	5.8	4.8	5.0	5.0	6.37	26.844		27.124
	10	Jupiter S. L.		3	III–VII.	151 36 18.4	15.8	18.6	15.1	13.1	12.8	15.53	27.341		27.625
	11	Jupiter N. L.		2	IV, VI.	18.2	15.4	17.4	15.8	12.9	12.0		28.655		28.937
	12	Nadir 17h. 40m.		3		270 0 8.1	4.2	7.0	3.8	3.2	4.1	5.07	29.886		
	13	W'se XVIII, 374, N.*		1	V.	135 30 7.7	7.2	7.0	3.3	3.2	3.2	5.27	24.613		24.893
	14	*a* Lyræ		3	III–VII.	90 15 8.2	8.0	9.0	6.2	5.3	6.5	7.20	32.370		32.642
27	15	*a* Leonis		2	II, IV.	116 15 7.3	7.6	5.0	4.0	2.1	4.8	5.13	28.315		28.594
	16	Mercury		5	III–VII.	" " "	"	"	"	"	"	"	33.598		33.876
	17	Venus S. C.		3	I–IX.	108 50 7.1	8.0	6.4	4.2	2.8	3.6	5.35	30.804		31.072
	18	Venus N. L.		2	III, VII.	" " "	"	"	"	"	"	"	31.502		31.777
	19	*a* Canis Majoris		5	I–IX.	145 25 6.8	4.0	4.2	1.1	0.6	3.0	3.28	30.929		31.216
28	20	Sun N. L.		4	I–IV.	109 45 8.9	7.1	5.8	2.9	5.0	5.4	5.85	31.757		32.020
	21	Sun S. L.		4	VI–IX.	110 14 64.7	62.5	61.3	57.9	60.9	60.8	61.35	28.643		28.923
	22	Mercury		5	I–IX.	116 50 9.0	6.8	. .	1.0	4.0	4.4	5.41	27.211		27.486
	23	κ Ophiuchi		4	I–IV.	119 19 69.0	64.8	63.8	59.7	62.6	63.9	63.97	34.226		34.505
	24	κ Ophiuchi, (Ref.)		4	VI–IX.	240 45 11.3	3.8	10.3	4.3	6.8	9.3	7.63	35.153		35.434
	25	*a* Herculis, (Ref.)		4	I–IV.	245 40 10.3	3.9	9.6	3.7	6.9	10.2	7.43	30.357		30.646
	26	*a* Herculis		4	VI–IX.	114 20 9.6	6.6	7.5	2.3	6.3	7.1	6.57	29.544		29.815
	27	Nadir		4		270 0 8.8	2.9	5.6	0.2	4.2	5.2	4.48	29.863		
	28	ψ^1 Draconis		3	III–V.	56 40 8.2	3.2	8.8	4.3	5.9	8.5	6.48	27.924		28.186
	29	δ Ursæ Minoris, (Ref.)		5		317 39 68.8	63.1	67.5	56.0	62.9	60.8	63.18	26.122	+ 0.352	26.508
	30	*a* Lyræ		5	I–IX.	90 15 9.8	5.9	9.9	1.8	6.8	6.6	6.80	32.367		32.699
	31	Weisse XVIII, 993	8.0	3	VII–IX.	141 19 69.4	63.2	68.1	59.2	63.3	61.4	64.10	28.616		28.971
	32	θ^1 Serpentis, (1st *)	6.0	3	I–IX.	124 50 11.3	6.4	9.9	0.9	6.2	5.5	6.70	28.231		28.561
	33	θ Serpentis, (2d *)	6.5	2	III, VII.	" " "	"	"	"	"	"	"	28.052		28.403
	34	Anon. 0h. 38m. 1s.		5	I–IX.	126 25 8.0	5.0	7.6	0.5	2.6	0.5	4.03	29.858		30.209
	35	Neptune		5	I–IX.	126 10 9.1	5.6	7.7	1.8	3.5	1.6	4.88	33.808		34.159
	36	Venus N. L.		4	I, II, VIII, IX.	108 40 12.2	11.8	11.6	7.7	7.9	7.8	9.67	26.046		26.384
	37	Venus S. L.		3	IV–VI.	" " "	"	"	"	"	"	"	25.232		25.583
29	38	Sun N. L.		2	I, III.	110 0 7.7	6.3	5.2	1.1	4.0	4.0	4.72	33.233		33.562
	39	Sun S. L.		3	V–IX.	110 29 66.1	64.7	62.7	58.1	62.9	62.0	62.75	30.158		30.507
	40	Mercury		5	I–IX.	117 29 68.8	65.0	. .	58.9	63.0	63.2	63.83	30.294		30.641
Aug. 2	41	Sun S. L.		3	III–V.	111 30 5.0	5.2	5.0	0.3	5.0	2.6	3.85	30.655		31.001
3	42	Sun S. L.		2	I, III.	111 45 9.0	9.0	6.9	4.0	5.2	5.1	6.53	29.462		29.793
	43	Sun N. L.		2	VII, IX.	111 15 10.1	11.0	9.0	5.4	8.8	7.5	8.63	32.468		32.819
	44	Jupiter S. L.		4	I, II, VIII, IX.	151 40 9.0	7.1	9.5	3.0	5.2	3.0	6.13	35.476		35.844
	45	Jupiter N. L.		3	IV–VI.	" " "	"	"	"	"	"	"	36.802		37.155
	46	Moon N. L.		4	I–IV.	148 15 9.0	6.4	8.8	2.2	4.1	2.0	5.42	34.328		34.720
	47	Moon S. L.		4	VI–IX.	148 45 8.6	5.8	7.3	2.2	3.7	1.1	4.78	31.732		32.062
	48	Nadir 18h. 50m.		3		270 0 8.3	5.9	7.1	3.0	6.6	5.1	6.00	29.829		
4	49	Sun S. L.		4	I–IV.	112 0 9.8	8.8	7.8	3.8	6.6	4.9	6.95	27.609		27.944
	50	Sun N. L.		4	VI–IX.	111 30 6.8	7.0	6.1	1.0	6.1	3.0	5.00	30.556		30.910
	51	Jupiter N. L.		3	V–IX.	151 34 66.5	64.0	66.9	59.1	62.2	60.2	63.15	27.085		27.444
	52	Jupiter S. L.		2	VI, VIII.	" " "	"	"	"	"	"	"	25.843		26.200
	53	Nadir 17h. 35m.		3		270 0 8.9	4.9	7.9	0.9	6.7	4.9	5.70	29.831		
7	54	Jupiter S. L.		3	I–IX.	151 35 10.0	8.3	12.2	6.0	5.9	2.2	7.43	25.758		26.124
	55	Jupiter N. L.		2	III, VII.	" " "	"	"	"	"	"	"	27.091		27.449
	56	Anon. 17h. 42m. 32s.	9.0	1	V.	157 30 10.6	9.3	13.0	8.0	7.5	2.5	8.48	33.402		33.754
	57	Anon. 17h. 43m. 20s.	8.0	2	VI, IX.	" " "	"	"	"	"	"	"	37.112		37.476
	58	*a* Lyræ		3	III–VII.	90 15 11.6	12.2	15.7	10.5	11.1	8.1	11.53	32.532		32.876
	59	Nadir 18h. 45m.		3		270 0 10.0	10.3	12.7	9.2	8.9	5.8	9.48	29.959		
	60	Weisse XXIII, 473	7.0	1	V.	127 20 10.0	10.9	13.0	9.8	8.0	3.0	9.12	38.966		39.315
	61	Juno	8.0	1	IX.	" " "	"	"	"	"	"	"	21.518		21.871
	62	Anon. 0h. 38m. 1s.		3	III–VII.	126 25 10.0	12.0	14.0	10.0	8.1	3.5	9.60	30.107		30.459
	63	Neptune		3	III–VII.	126 10 8.1	11.1	12.2	8.0	6.1	1.6	7.85	28.173		28.525

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	29.977	82.0	80.0	+ 13.7	+ 1 5.9	50 16 25.1	— 11 22 45.9	— 1.9	N.	
2	. .	. .	. .	— 1 23.3	0.2	0 13 45.9	+ 38 39 53.3	— 4.7		
3										
4	. .	. .	. .	— 6.0	40.9	36 25 41.2	2 27 58.0	+ 82.0		
5	29.996	77.5	75.0	+ 2 8.9	40.2	36 7 55.8	2 45 43.4			
6	30.050	80.0	81.5	— 29.6	15.4	19 4 54.1	19 48 56.4		Ha.	
7	. .	. .	. .	52.3	15.4	19 4 31.4				
8	. .	. .	. .	— 1 56.8	16.7	19 48 27.6	+ 19 20 59.1			
9	30.062	84.0	86.1	+ 1 30.1	16.2	19 16 52.7				
10	. .	. .	. .	1 14.4	1 40.2	61 39 10.1	— 22 45 10.3			One circle reading made with 35′ division; the other with 40′ division.
11	30.046	81.0	76.8	33.3	1 40.2	61 38 29.0				
12										
13	30.028	79.5	75.6	+ 2 40.1	56.4	45 33 41.7	— 6 40 2.5	— 5.4		Through clouds.
14	. .	. .	. .	— 1 22.8	0.2	0 13 44.6	+ 38 39 54.6	4.9		Neptune under clouds.
15	. .	. .	. .	+ 44.1	26.8	26 16 16.0	12 37 23.2	76.5	D.	Steady.
16	30.026	81.0	86.6	— 2 1.5	23.6	26 13 27.2	12 40 12.0			Good. + 0″.24 added for def. illumination.
17	30.032	79.5	84.5	33.6	15.2	18 49 46.9	+ 20 4 3.3		N.	
18	. .	. .	. .	55.7	15.2	18 49 24.8				
19	30.041	82.0	88.6	38.1	1 18.3	55 25 43.4	— 16 32 4.2	12.9		
20	. .	. .	. .	— 1 3.3	16.5	19 44 19.0	+ 18 53 33.7			
21	30.040	84.2	90.9	+ 33.8	17.0	20 15 52.1				
22	30.022	85.0	93.1	+ 1 18.8	23.9	26 51 48.1	12 1 51.1			Division under mic. C obliterated. — 0″.64 added to mean of A, B, E, F. + 0″.28 added for defective illumination.
23	. .	. .	. .	— 2 21.2	+ 30.6	29 18 13.3	9 35 25.9	40.6		
24	29.966	84.0	82.6	2 50.3	— 30.6	330 41 46.7	9 35 26.0			
25	. .	. .	. .	— 20.3	— 24.7	335 39 22.4	14 33 1.7	35.5		
26	. .	. .	. .	+ 5.8	+ 24.7	24 20 37.0	14 33 2.2			
27										[mercury box.
28	. .	. .	. .	56.8	— 35.9	326 40 27.3	72 13 11.9	27.4		After this observation telescope lightly struck
29	29.964	83.5	81.0	+ 1 49.4	+ 1 0.1	47 42 52.6	86 36 31.9	13.2		At 18h. 17m. 39s., 18m. 16s., 18m. 49s., 19m. 24s., and 20m. 19s.
30	. .	. .	. .	— 1 24.6	0.2	0 13 42.4	+ 38 39 56.8	— 5.4		
31	. .	. .	. .	+ 32.2	1 8.3	51 21 44.6	— 12 28 5.4	+ 3.6		
32	. .	. .	. .	44.5	38.1	34 51 29.3	+ 4 2 9.9	4.8		
33	29.966	83.0	80.6	+ 50.0	38.1	34 51 34.8	4 2 4.4	5.3		Recorded as taken on wires III, VI.
34	. .	. .	. .	— 6.6	40.7	36 25 38.1	2 28 1.1	+ 81.6		
35	29.950	80.0	75.9	— 2 10.3	40.1	36 8 34.6	2 45 4.6			
36	. .	. .	. .	+ 1 53.3	15.0	18 42 17.9	20 11 8.6		D.	
37	30.010	82.0	87.2	+ 2 18.5	15.0	18 42 43.1				Line of cusps nearly vertical.
38	. .	. .	. .	— 1 51.6	16.7	19 58 29.8	18 39 22.4			
39	30.020	87.0	91.6	15.9	17.1	20 30 3.9				
40	30.008	87.5	93.0	20.1	+ 24.5	27 30 8.2	11 23 31.0			Div. under mic. C oblit. — 1″.17 added to mean of C, D, E, F. + 0″.30 added for def. ill.
41	30.392	81.0	87.4	— 31.4	— 15 29.7	21 14 2.7	17 39 36.5		Ha.	Through clouds.
42	. .	. .	. .	+ 6.5	+ 18.8	21 45 31.8	+ 17 23 54.0		D.	
43	30.312	81.0	86.3	— 1 28.3	18.3	21 13 58.6				
44	. .	. .	. .	3 3.2	1 40.6	61 38 43.5	— 22 44 43.7			Cloudy.
45	30.236	81.0	78.7	3 44.2	+ 1 40.5	61 38 2.4				
46	. .	. .	. .	2 27.9	— 46 57.4	57 25 40.1	— 18 47 35.3			
47	30.255	80.5	78.0	— 1 4.6	— 47 11.3	57 56 48.8				Cor. for defective illumination = + 0″.87.
48										
49	. .	. .	. .	+ 1 4.4	+ 18.9	22 1 30.2	+ 17 7 56.7		Ha.	
50	30.234	82.0	88.2	— 28.5	18.4	21 29 54.9				
51	30.162	82.0	78.1	+ 1 20.1	1 40.5	61 38 3.7	— 22 44 44.0			Through clouds.
52	. .	. .	. .	1 59.1	1 40.5	61 38 42.7				
53										
54	29.964	77.0	71.8	2 1.5	1 41.0	61 38 49.9	22 44 49.9			
55	. .	. .	. .	+ 1 19.9	1 41.0	61 38 8.3				
56	. .	. .	. .	— 1 57.6	2 13.6	67 30 24.4	28 36 45.2	— 13.0		
57	29.968	76.0	71.0	3 54.3	2 13.4	67 28 27.5	— 28 34 48.3	12.7		
58	. .	. .	. .	1 30.1	0.2	0 13 41.6	+ 38 39 57.6	— 7.9		
59										
60	. .	. .	. .	— 4 52.0	43.0	37 16 0.1	1 37 39.1	+ 76.9		
61	30.032	71.0	64.9	+ 4 14.8	43.2	37 25 7.1	1 28 32.1			
62	. .	. .	. .	— 14.4	41.9	36 25 37.1	2 28 2.1	+ 79.9		
63	30.050	70.0	63.4	+ 46.2	+ 41.3	36 11 35.3	+ 2 42 3.9			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrc'd.
						° ′ ″	″	″	″	″	″	″	r.	r.	r.
1865.															
Aug. 7	1	Venus S. L.	. .	4	I,II,VIII,IX.	107 55 8.1	12.8	13.0	8.8	6.5	3.8	8.83	32.528	+ 0.361	32.·74
	2	Venus N. L.	. .	2	V, VI.	" " "	"	"	"	"	"	"	33.242	. .	33.602
8	3	Sun N. L.	. .	2	I, III.	112 35 8.1	11.1	10.0	8.0	7.4	4.3	8.15	27.844	. .	28.182
	4	Sun S. L.	. .	3	V-IX.	113 5 5.1	7.5	8.0	5.0	4.0	1.5	5.18	24.590	. .	24.954
	5	Mercury	. .	3	I-V.	123 40 4.7	7.0	6.6	3.0	3.7	1.4	4.40	35.145	. .	35.485
	6	Jupiter N. L.	. .	3	I-IX.	151 35 10.7	10.1	13.0	7.8	8.0	3.9	8.92	27.048	. .	27.423
	7	Jupiter S. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	25.791	. .	26.158
	8	Anon. 17h. 29m. 44s.	7.0	2	VIII, IX.	156 44 65.7	66.3	66.9	63.1	62.8	58.6	63.90	21.962	. .	22.339
	9	B. A. C. 5966	8.0	3	III-VII.	" " "	"	"	"	"	"	"	38.687	. .	39.052
	10	B. A. C. 6016	6.0	5	I-IX.	160 30 8.4	6.5	12.0	4.9	4.2	1.4	6.23	29.607	. .	29.983
	11	δ Ursæ Minoris	. .	3	. .	42 20 8.0	10.6	14.5	9.9	10.3	4.4	9.62	33.825	. .	34.015
	12	α Lyræ	. .	3	III-VII.	90 15 8.2	10.2	13.0	8.3	9.1	6.0	9.13	32.447	. .	32.800
	13	Nadir 19h. 40m.	. .	3	. .	270 0 8.0	8.1	10.8	6.9	7.0	3.1	7.32	29.870	. .	. .
	14	Venus N. L.	. .	4	I,II,VIII,IX.	107 50 7.5	12.6	11.6	9.0	6.9	3.9	8.58	28.443	. .	28.789
	15	Venus S. L.	. .	3	IV-VI.	" " "	"	"	"	"	"	"	27.788	. .	28.144
9	16	Sun S. L.	. .	2	I, III.	113 25 7.5	9.0	8.4	5.2	6.0	3.6	6.62	29.917	. .	30.256
	17	Sun N. L.	. .	3	V-IX.	112 55 8.1	8.4	7.8	5.4	7.2	4.5	6.90	32.944	. .	33.308
	18	Mercury	. .	5	I-IX.	124 10 8.1	8.2	8.0	4.0	5.8	4.9	6.50	28.168	. .	28.527
	19	Anon. 18h. 0m. 25s.	. .	5	I-IX.	150 10 8.0	7.1	10.0	4.0	4.7	1.3	5.85	33.775	. .	34.146
	20	Weisse XVIII, 570	. .	1	V.	140 15 8.2	8.6	9.0	5.0	5.3	2.7	6.47	29.304	. .	29.665
	21	Weisse XVIII, 696	. .	3	III-VII.	141 40 8.0	7.0	9.4	5.0	4.9	2.2	6.08	30.269	. .	30.632
	22	Weisse XVIII, 792	. .	3	III-VII.	" " "	"	"	"	"	"	"	26.650	. .	27.013
	23	Weisse XVIII, 1314	. .	1	V.	" " "	"	"	"	"	"	"	30.943	. .	31.304
	24	Weisse XVIII, 1398	. .	1	V.	136 25 8.1	9.1	9.2	4.2	6.4	3.9	6.82	30.381	. .	30.742
	25	Weisse XVIII, 1412	. .	1	. .	" " "	"	"	"	"	"	"	28.205	. .	28.575
	26	20 Aquilæ	. .	2	VI, IX.	137 5 8.7	8.8	9.9	5.1	6.7	2.7	6.98	35.454	. .	35.816
	27	B. A. C. 6607	. .	5	I-IX.	151 30 8.7	8.6	11.7	6.1	5.5	2.3	7.15	28.537	. .	28.90·
	28	O. Arg. S. 19909	. .	5	III-VII.	152 30 10.0	9.0	12.2	7.5	7.0	4.1	8.30	36.630	. .	36.994
	29	O. Arg. S. 20160	6.0	4	I, III, V, IX.	146 10 10.4	10.5	11.7	7.8	7.1	5.0	8.75	37.463	. .	37.832
	30	O. Arg. S. 20294	. .	1	V.	147 5 8.1	7.3	9.2	4.2	4.9	2.2	5.98	30.021	. .	30.382
	31	O. Arg. S. 20423	. .	5	I-IX.	146 5 8.2	9.4	10.3	5.2	5.3	3.0	6.90	25.942	. .	26.311
	32	B. A. C. 7063	. .	5	I-IX.	144 25 8.2	8.9	9.9	5.2	6.0	2.3	6.75	35.060	. .	35.428
	33	O. Arg. S. 20595	. .	1	V.	" " "	"	"	"	"	"	"	31.827	. .	32.188
	34	Anon. 20h. 33m. 39s.	. .	1	VII.	138 5 8.5	9.8	10.1	7.0	6.5	2.7	7.43	41.198	. .	41.559
	35	Nadir 21h.	. .	4	. .	270 0 8.3	9.1	11.1	8.0	8.2	5.0	8.28	29.904	. .	. .
	36	Moon N. L.	. .	5	I-IX.	127 25 12.5	15.0	15.0	13.0	12.1	7.0	12.43	30.017	. .	30.357
11	37	Sun N. L.	. .	4	I-IV.	113 30 9.2	9.4	9.8	5.0	9.0	5.5	7.98	32.358	. .	32.701
	38	Sun S. L.	. .	4	VI-IX.	114 0 8.9	9.2	9.2	4.3	8.0	5.1	7.45	29.146	. .	29.512
	39	Jupiter S. L.	. .	4	I,II,VIII,IX.	151 40 7.3	6.2	8.3	3.0	3.9	1.5	5.03	34.674	. .	35.051
	40	Jupiter N. L.	. .	5	III-VII.	" " "	"	"	"	"	"	"	35.979	. .	36.343
	41	Weisse XVII, 779	. .	1	V.	136 55 3.1	8.0	8.0	2.5	5.6	1.9	5.68	32.630	. .	32.991
	42	O. Arg. S. 17443	. .	5	I-IX.	149 55 8.4	7.0	9.9	4.1	5.0	1.9	6.05	32.223	. .	32.593
	43	Weisse XVIII, 374, N*	. .	4	II,IV,V,VII.	135 35 8.0	7.2	8.5	1.8	6.2	2.2	5.65	34.190	. .	34.553
	44	Weisse XVIII, 779	. .	5	I-IX.	140 10 7.9	8.2	8.3	3.7	5.0	1.8	5.82	38.213	. .	38.579
	45	Weisse XVIII, 874	. .	4	VI-IX.	140 15 8.1	8.0	8.5	4.9	5.0	2.0	6.08	19.707	. .	20.070
	46	Weisse XVIII, 1314	. .	3	III-VII.	141 40 9.0	8.0	11.0	5.2	6.2	2.7	7.02	30.980	.	31.343
	47	Weisse XVIII, 1398	. .	3	III-VII.	136 25 8.8	9.8	10.0	4.2	7.5	4.0	7.38	30.390	.	30.752
	48	Weisse XVIII, 1412	. .	4	VI-IX.	" " "	"	"	"	"	"	"	28.279	.	28.640
	49	20 Aquilæ	. .	5	I-IX.	137 5 8.7	9.0	10.9	4.7	6.3	2.5	7.08	35.456	. .	35.821
	50	B. A. C. 6607	. .	5	I-IX.	151 35 8.6	8.2	10.8	5.1	5.0	2.0	6.62	38.099	. .	38.471
	51	Nadir 19h. 45m.	. .	3	. .	270 0 8.0	8.3	10.0	6.2	7.0	4.7	7.37	29.869	. .	. .
	52	O. Arg. S. 20160	. .	1	V.	146 0 7.8	8.0	9.4	4.8	5.5	2.1	6.27	18.213	. .	18.574
	53	O. Arg. S. 20294	. .	3	III-VII.	147 5 8.0	6.1	8.1	3.0	3.2	1.0	4.90	29.995	. .	30.359
	54	O. Arg. S. 20423	. .	5	III-VII.	146 5 7.5	8.1	9.0	4.3	4.1	2.0	5.83	25.927	. .	26.291
	55	B. A. C. 7063	. .	5	I-V.	144 25 7.8	7.0	8.2	3.0	3.8	0.9	5.12	35.018	. .	35.387
	56	O. Arg. S. 20595	9.0	5	I-IX.	" " "	"	"	"	"	"	"	31.779	. .	32.147
	57	Anon. 20h. 40m. 21s.	9.0	1	IX.	162 30 8.7	7.3	11.7	6.7	4.8	2.0	6.87	34.834	. .	35.223
	58	ζ Microscopii	. .	3	VII-IX.	168 0 8.3	6.9	12.0	7.1	4.0	0.7	6.50	32.952	. .	33.334
	59	Weisse I, 578	. .	2	VII, IX½.	114 0 9.0	11.1	12.3	9.4	7.1	4.3	8.87	35.899	. .	36.245
	60	Moon N. L.	. .	5	I-IX.	118 15 8.7	9.8	8.7	6.6	3.7	2.0	6.58	34.892	. .	35.235
12	61	Jupiter S. L.	. .	3	II-VIII.	151 40 8.6	9.0	10.7	6.2	6.4	1.3	7.03	34.539	. .	34.906
	62	Jupiter N. L.	. .	4	III, IV, VI, VII.	" " "	"	"	"	"	"	"	35.840	. .	36.205
	63	Anon. 17h. 37m. 6s.	9.5	1	III.	136 40	10.2	9.5	6.0	6.3	2.8	7.23	28.147	. .	28.512
	64	Weisse XVII, 713	8.5	1	VII.	8.8	10.3	9.9	6.1	6.7	2.8		29.722	. .	30.083
	65	Weisse XVII, 779	. .	3	V-IX.	136 55 8.0	9.9	9.9	5.7	5.9	1.1	6.75	32.698	. .	33.060

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 1 30.1	+ 15.1	17 53 53.8			D.	Unsteady and blurred.
2	30.121	71.7	74.7	— 1 52.9	15.1	17 53 31.0	+ 20 59 56.8			
3	. .	. .	. .	+ 57.0	19.8	22 36 24.9				Rather unsteady.
4	30.140	77.0	78.9	+ 2 38.2	20.3	23 8 3.6	16 1 24.9			
5	30.128	78.0	80.2	— 2 51.9	32.2	33 37 44.7	+ 5 15 54.5			Interrupted by clouds. +0″.59 added for defective illumination.
6	30.100	75.5	70.3	+ 1 20.8	1 41.8	61 38 11.5	— 22 44 52.1		Ha.	
7	. .	. .	. .	2 0.4	1 41.8	61 38 51.1				
8	. .	. .	. .	+ 4 0.1	2 10.2	66 51 14.2	27 57 35.0	— 17.3		
9	. .	. .	. .	— 4 43.7	2 9.4	66 42 29.6	27 48 50.4	16.6		
10	30.104	74.5	69.1	+ 0.5	+ 2 37.2	70 32 43.9	— 31 39 4.7	12.7		
11	30.108	73.0	67.2	— 2 5.9	— 1 2.0	312 17 1.7	+ 86 36 37.5	15.9		At 18h. 21m. 39s., 22m. 39s., and 23m. 39s.
12	. .	. .	. .	— 1 27.8	+ 0.2	0 13 41.5	38 39 57.7	8.1		[of clouds.
13										Tried to observe the moon, but could not because
14	. .	. .	. .	+ 38.0	15.0	17 51 1.5			D.	Unsteady.
15	30.150	71.5	75.6	+ 58.1	15.0	17 51 21.6	21 2 27.6			Line of cusps sensibly vertical.
16	. .	. .	. .	— 8.0	20.5	23 25 19.1				
17	30.124	77.7	81.8	— 1 43.7	19.9	22 53 43.1	15 44 8.1			
18	30.108	79.0	83.8	+ 46.2	32.6	34 11 25.3	+ 4 42 13.9			Clouds flitting over.
19	30.067	75.2	70.6	— 2 9.9	1 37.2	60 9 33.1	— 21 15 53.9	8.7		
20	. .	. .	. .	+ 10.5	1 7.3	50 16 24.2	11 22 45.0	2.5		Cloudy.
21	. .	. .	. .	— 19.8	1 10.8	51 40 57.0	12 47 17.8	— 0.4		
22	30.060	74.5	69.4	+ 1 33.6	1 10.9	51 42 50.5	12 49 11.3	+ 0.7		
23	. .	. .	. .	— 40.9	1 10.8	51 40 35.9	12 46 56.7	7.6		
24	. .	. .	. .	— 23.3	58.9	46 25 42.4	7 32 3.2	7.8		
25	. .	. .	. .	+ 44.6	59.0	46 26 50.4	7 33 11.2	7.9		Taken just as it passed out of field.
26	. .	. .	. .	— 3 2.3	1 0.2	47 3 4.8	8 9 25.6	11.3		Passed out of field 33s. after passing wire IX.
27	30.050	73.5	68.6	+ 34.2	1 43.1	61 32 24.4	22 38 45.2	16.4		Hence hour angle of preceding obs. = 87s.
28	. .	. .	. .	— 3 39.2	1 47.3	62 28 16.4	23 34 37.2	24.4		
29	30.046	72.3	68.0	4 5.5	1 23.5	56 7 26.7	17 13 47.5	29.0		Circle reading recorded 146° 0′. Reobserved
30	. .	. .	. .	— 12.0	1 26.7	57 6 20.6	18 12 41.4	32.2		August 11.
31	. .	. .	. .	+ 1 55.6	1 23.6	56 8 26.1	17 14 46.9	35.1		
32	. .	. .	. .	— 2 50.1	1 18.4	54 23 35.0	15 29 55.8	38.0		
33	. .	. .	67.5	1 8.6	1 18.5	54 25 16.6	15 31 37.4	38.6		
34	. .	. .	. .	6 2.3	+ 1 2.4	48 0 7.5	— 9 6 28.3	+ 40.6		
35	30.042	. .	66.4							Bar. and ther. at 21h. 8m. Juno behind clouds.
36	30.006	71.0	64.1	11.2	— 19 13.2	37 5 48.0	+ 1 47 51.2			Behind clouds; poor observation. First bisection about midway between wires I and II,
37	. .	. .	. .	— 1 24.6	+ 20.4	23 29 3.7			Ha.	second about midway between III and IV,
38	29.892	79.5	81.6	+ 15.3	20.9	24 0 43.6	+ 15 8 45.6			and third about one-fourth interval after V.
39	. .	. .	. .	— 2 38.3	40.7	61 39 7.4			D.	
40	29.888	76.5	72.2	3 18.8	1 40.6	61 38 26.8	— 22 45 7.9			
41	. .	. .	. .	1 33.7	59.3	46 54 31.2	8 0 52.0	— 19.6		
42	29.904	75.7	71.2	1 21.3	1 35.6	59 55 20.3	21 1 41.1	11.9		
43	. .	. .	. .	2 22.7	56.7	45 33 39.6	6 40 0.4	— 6.4		
44	. .	. .	. .	— 4 28.9	1 6.6	50 6 43.5	11 13 4.3	+ 0.1		
45	. .	. .	. .	+ 5 11.2	1 7.2	50 21 24.4	11 27 45.2	1.4		
46	. .	. .	. .	— 42.1	1 10.5	51 40 35.4	12 46 56.2	7.6		
47	. .	. .	. .	— 23.6	58.6	46 25 42.3	7 32 3.1	7.6		
48	29.898	74.2	68.8	+ 42.6	58.7	46 26 48.6	7 33 9.4	7.8		
49	. .	. .	. .	— 3 2.4	59.9	47 3 4.5	8 9 25.3	11.2		
50	29.900	74.0	69.0	— 4 25.5	1 42.5	61 32 23.6	22 38 44.4	16.4		
51										
52	. .	. .	. .	+ 5 58.1	1 23.1	56 7 27.4	17 13 48.2	29.0		
53	29.896	73.0	67.8	— 11.2	1 26.2	57 6 19.9	18 12 40.7	32.2		
54	. .	. .	. .	+ 1 56.2	1 23.2	56 8 25.2	17 14 46.0	35.1		
55	. .	. .	. .	— 2 48.8	1 18.0	54 23 34.3	15 29 55.1	38.0		
56	. .	. .	. .	1 7.3	1 18.1	54 25 15.9	15 31 36.7	38.6		Very good.
57	. .	. .	67.3	2 43.7	2 55.2	72 30 18.3	33 36 39.1	44.4		
58	. .	72.0	67.2	1 44.5	4 16.5	78 2 38.5	— 39 8 59.3	48.4		Ther. at 20h. 6m. Bar. recorded by amanuensis, 29 8—not used.
59	29.922	71.0	65.7	3 15.7	+ 25.0	23 57 18.1	+ 14 56 21.1	+ 79.7		Behind clouds. First bisection at I½: second at III½. Record of barometer supposed erroneous and not used.
60	29.832	70.5	65.1	2 44.1	— 11 11.5	28 1 11.0	+ 10 52 28.2			
61	. .	. .	. .	2 33.8	+ 1 41.8	61 39 15.0				
62	30.012	73.0	69.1	— 3 14.5	1 41.7	61 38 34.2	— 22 45 15.4			
63	. .	. .	. .	+ 46.6	59.5	46 41 53.3	7 48 14.1	— 20.7		Mic. A having been forgotten till the screw-head and circle had been moved, the second
64	. .	. .	. .	— 2.6	59.5	46 41 4.1	7 47 24.9	20.7		reading was taken immediately after observing Weisse XVII, 779.
65	. .	. .	. .	— 1 35.9	+ 1 0.0	46 54 30.8	— 8 0 51.6	+ 19.7		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Aug. 12	1	B. A. C. 6160		5	I–IX.	157 50 9.3	9.2	12.0	7.9	5.0	1.2	7.43	35.969	+ 0.361	36.344
	2	B. A. C. 6222	8.0	5	I–IX.	151 50 10.0	10.9	12.7	7.8	6.3	2.8	8.42	28.884		29.256
	3	Weisse XVIII, 570		3	II–VIII.	140 15 9.8	10.0	10.7	7.9	6.0	2.3	7.78	29.375		29.740
	4	Weisse XVIII, 696		5	I–IX.	141 40 9.7	8.9	12.0	8.0	5.9	2.1	7.77	30.358		30.724
	5	Weisse XVIII, 792		3	V–IX.	" " "	"	"	"	"	"	"	26.726		27.069
	6	Weisse XVIII, 993		5	I–IX.	141 20 9.9	9.1	12.3	8.1	6.3	2.9	8.10	28.805		29.172
	7	Anon. 18h. 53m. 26s.	9.0	3	I–V.	167 15 10.9	11.3	15.0	11.4	8.1	3.4	10.02	24.646		25.026
	8	Lacaille 7962	7.5	3	V–IX.	" " "	"	"	"	"	"	"	27.934		28.310
	9	Anon. 19h. 20m. 51s.		5	III–VII.	168 25 11.0	10.0	14.2	10.7	6.3	2.6	9.13	30.836		31.203
	10	Nadir 19h. 45m.		5		270 0 10.9	11.9	14.1	11.5	10.2	6.3	10.82	29.987		
	11	B. A. C. 6886		3	V–IX.	162 15 9.7	10.2	14.7	10.0	5.7	3.0	8.88	33.399		33.772
	12	Anon. 20h. 8m. 11s.		3	V–IX.	153 5 9.9	9.0	13.1	9.0	5.0	3.0	8.17	27.752		28.129
	13	B. A. C. 7063		5	III–VII.	144 25 8.7	8.8	10.7	6.2	5.1	1.7	6.87	35.102		35.465
	14	O. Arg. S. 20595		3	III–VII.	" " "	"	"	"	"	"	"	31.858		32.221
	15	Anon. 20h. 30m. 43s.	7.0	5	I–IX.	162 30 8.9	8.9	13.0	8.9	5.3	1.1	7.68	31.524		31.901
	16	Santini 1		1	V.	126 10 9.8	16.0	17.9	12.6	3.0	3.8	10.52	27.715	+ 0.380	28.095
	17	Anon. 0h. 38m. 1s.		1	V.	126 24 64.0	68.4	65.9	63.6	61.0	53.5	62.73	29.840		30.220
	18	Neptune		3	III–VII.	126 14 69.0	70.3	71.4	66.8	64.3	59.4	66.87	34.030		34.410
	19	Anon. 1h. 5m. 22s.		1	V.	116 34 66.9	68.7	71.3	64.6	62.6	58.2	65.38	32.315		32.695
	20	Lalande 2410		1	V.	116 10 8.0	11.2	12.9	8.9	4.8	1.8	7.93	34.800		35.180
	21	Weisse I, 968		1	IV.	114 19 63.6	69.1	69.5	66.3	62.2	58.8	64.92	33.075		33.455
	22	Nadir		3		270 0 4.9	10.2	10.8	8.5	5.1	0.0	6.58	29.830		
14	23	Weisse XVII, 697		3	III–VII.	136 50 5.9	8.1	6.1	2.0	5.0	1.0	4.68	29.610	+ 0.361	29.972
	24	Weisse XVII, 755		5	I–IX.	" " "	"	"	"	"	"	"	33.791		34.156
	25	B. A. C. 6161		5	I–IX.	152 34 65.1	66.1	67.0	62.0	62.0	58.9	63.52	29.300		29.672
	26	B. A. C. 6220		5	I–IX.	157 25 7.2	8.9	8.6	4.8	5.0	0.7	5.87	38.287		38.662
	27	23 Sagittarii		5	I–IX.	152 15 7.3	8.7	9.2	4.2	5.1	1.6	6.02	35.748		36.120
	28	Weisse XVIII, 779		5	I–IX.	140 5 8.0	8.9	7.9	3.8	5.6	1.1	5.88	28.635		29.001
	29	Weisse XVIII, 874		5	I–IX.	140 20 8.4	10.0	8.0	5.1	6.7	1.8	6.07	29.348		29.714
	30	Nadir 19h.		4		270 0 8.3	8.8	9.2	6.4	8.6	5.0	7.72	29.887		
15	31	Mercury		4	V, VI, VIII, IX.	127 10 9.0	9.7	7.0	3.0	7.3	4.0	6.67	27.153		27.527
	32	B. A. C. 5943		5	I–IX.	157 15 9.4	9.8	9.0	5.1	7.3	4.0	7.43	34.839		35.214
	33	Weisse XVII, 713		3	I–V.	136 40 6.8	8.3	6.2	1.2	6.0	2.4	5.15	29.635		30.001
	34	Anon. 17h. 37m. 7s.		1	IX.	" " "	"	"	"	"	"	"	28.051		28.414
	35	Weisse XVII, 779		2	VII, IX.	136 50 6.1	7.0	6.0	0.0	5.1	1.2	4.23	22.964		23.335
	36	O. Arg. S. 18198		3	III–VII.	150 5 7.9	7.5	8.3	2.2	5.0	1.3	5.37	42.557		42.921
	37	Weisse XVIII, 696		5	I–IX.	141 40 8.0	6.3	8.2	2.8	5.2	1.8	5.38	30.237		30.603
	38	Weisse XVIII, 792		3	III–VII.	" " "	"	"	"	"	"	"	26.641		27.004
	39	Weisse XVIII, 993		5	I–IX.	141 20 8.7	7.4	8.7	3.9	6.0	2.0	6.12	28.694		29.061
	40	Anon. 18h. 53m. 24s.	9.0	3	I–V.	167 15 9.9	9.3	11.0	6.5	7.8	3.2	7.95	24.461		24.841
	41	Lacaille 7962	6.5	3	VI, VIII, IX.	" " "	"	"	"	"	"	"	27.722		28.102
	42	Weisse XVIII, 1480	7.0	5	I–IX.	138 0 9.9	10.1	8.8	3.7	6.9	3.7	7.18	32.433		32.794
	43	Anon. 19h. 15m. 48s.	8.0	3	III–VII.	163 25 10.0	9.8	6.9	5.0	7.3	4.0	7.17	33.728		34.095
	44	Lacaille 8186		5	I–IX.	165 50 9.6	9.5	10.8	6.5	7.5	4.0	7.98	36.902		37.282
	45	*f* Sagittarii		3	III–VII.	149 0 8.9	7.5	8.3	3.0	5.1	1.0	5.63	36.001		36.365
	46	O. Arg. S. 20217		5	I–IX.	145 35 8.5	8.0	8.5	1.9	6.4	3.1	6.07	25.722		26.091
	47	O. Arg. S. 20320		5	I–IX.	146 10 8.0	7.8	8.0	2.6	5.0	2.1	5.58	32.014		32.383
	48	O. Arg. S. 20442		3	V–IX.	144 55 7.6	7.4	6.6	0.5	4.8	1.1	4.67	29.670		30.035
	49	Anon. 20h. 30m. 43s.		5	I–IX.	162 30 8.0	6.6	10.4	4.5	5.9	2.8	6.37	31.343		31.721
	50	Anon. 20h. 40m. 23s.		3	III–VII.	" " "	"	"	"	"	"	"	34.744		35.110
	51	μ Aquarii	5.0	3	III–VII.	138 25 8.7	8.0	8.1	3.5	5.4	1.9	5.93	36.603		36.966
	52	ζ Microscopii	6.0	2	VI, VIII.	168 0 9.3	8.3	6.5	6.8	7.0	2.3	6.70	32.980		33.352
	53	Nadir 21h. 10m.		4		270 0 9.9	8.8	11.0	6.1	9.5	6.4	8.62	29.915		
	54	Anon. 21h. 18m. 34s.	7.5	5	III–VII.	151 20 9.7	8.3	10.9	5.2	6.1	2.3	7.08	37.140		37.504
	55	*b* Capricorni	5.5	5	I–IX.	" " "	"	"	"	"	"	"	39.206		39.577
	56	O. Arg. S. 21562		3	III–VII.	" " "	"	"	"	"	"	"	22.379		22.743
	57	Neptune		1	VII.	126 15 11.8	13.6	12.9	8.6	9.5	5.5	10.32	31.884		32.242
16	58	Sun N. L.		4	I–IV.	115 0 9.5	11.2	10.0	5.1	10.2	6.9	8.82	27.630		27.973
	59	Sun S. L.		4	VI–IX.	115 35 8.8	10.5	9.9	4.5	10.0	7.0	8.45	33.985		34.352
	60	α Lyræ		3	III–VII.	90 15 9.2	7.0	9.4	4.0	8.0	6.9	7.42	32.424		32.777
	61	Nadir 19h. 25m.		3		270 0 9.9	7.5	10.7	3.8	9.0	5.9	7.80	29.880		
	62	γ Aquilæ		5	I–IX.	118 35 9.8	7.6	7.2	3.0	5.7	3.1	6.07	28.753		29.109
19	63	Sun S. L.		2	III, V.	116 30 9.7	12.0	11.3	6.2	9.0	5.9	9.02	27.905		28.259
	64	Sun N. L.		2	VII, IX.	116 0 7.8	10.3	8.0	5.0	6.8	4.7	7.10	31.080		31.44[illegible]

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.026	72.0	67.5	— 3 18.8	+ 2 16.8	67 49 5.4	— 28 55 26.2	— 5.6	D.	
2	. .	. .	. .	+ 23.3	1 44.8	61 52 16.5	22 58 37.3	3.6		
3	. .	. .	. .	+ 8.2	1 7.7	50 16 23.6	11 22 44.4	2.7		
4	. .	. .	. .	— 22.7	1 11.2	51 40 56.2	12 47 17.0	— 0.5		
5	. .	. .	. .	+ 1 31.2	1 11.3	51 42 50.2	12 49 11.0	+ 0.6		
6	30.031	71.5	66.1	25.9	1 10.4	51 21 44.4	12 28 5.2	3.0		
7	. .	. .	. .	2 35.9	4 4.7	77 21 50.6	38 28 11.4	13.5		
8	. .	. .	65.8	+ 53.0	4 4.2	77 20 7.2	38 26 28.0	13.7		
9	30.030	70.2	65.0	— 37.7	4 28.3	78 28 59.7	39 35 20.5	22.4		Bar. and ther. at 19h. 29m.
10										
11	. .	. .	64.0	— 1 58.2	2 54.6	72 16 5.2	33 22 26.0	32.3		
12	. .	. .	. .	+ 58.9	1 51.3	63 7 58.3	24 14 19.1	34.3		
13	. .	. .	. .	— 2 51.3	1 19.0	54 23 34.5	15 29 55.3	37.9		
14	. .	. .	. .	1 9.6	1 19.1	54 25 16.3	15 31 37.1	38.6		
15	30.042	69.7	63.2	— 59.6	2 57.7	72 32 5.7	— 33 38 26.5	40.9		
16	30.108	67.0	61.0	+ 59.7	41.8	36 11 52.0	+ 2 41 47.2	79.1	H.*	* Professor Hall.
17	. .	. .	. .	— 6.9	42.2	36 25 38.0	2 28 1.2	79.3		Whole rev. recorded, 30.
18	30.112	66.2	60.2	2 18.2	41.7	36 13 30.3	2 40 8.9			
19	. .	. .	. .	1 24.5	28.6	26 34 9.5	12 19 29.7	83.6		
20	. .	. .	. .	2 42.4	28.1	26 7 53.6	12 45 45.6	80.6		
21	30.125	65.5	59.9	— 1 48.3	25.9	24 18 42.5	+ 14 34 56.7	+ 80.0		
22										
23	. .	. .	. .	+ 0.9	59.5	46 51 5.0	— 7 57 25.8	— 21.0	D.	Good observation.
24	30.046	. .	71.7	— 2 10.2	59.4	46 48 53.8	7 55 14.6	20.1		
25	. .	. .	. .	+ 10.3	1 47.4	62 37 1.2	23 43 22.0	6.9		
26	. .	. .	71.2	— 4 31.5	2 13.2	67 22 47.5	28 29 8.3	2.2		
27	. .	. .	. .	— 3 11.8	1 45.7	62 13 39.9	23 20 0.7	0.5		Whole rev. not recorded.
28	. .	. .	. .	+ 31.3	1 6.8	50 6 43.9	11 13 4.7	— 0.1		
29	30.048	73.0	70.7	9.0	1 7.4	50 21 23.0	— 11 27 43.8	+ 1.3		
30										
31	29.976	77.0	82.7	+ 1 17.5	36.3	37 12 0.4	+ 1 41 38.8			Behind clouds when it entered the field. Cor. for defective illumination = + 0″.91.
32	. .	. .	75.1	— 2 43.4	2 10.8	67 14 34.8	— 28 20 55.0	— 17.4		
33	. .	. .	. .	0.0	58.6	46 41 3.7	7 47 24.5	21.0		Whole rev. not recorded. Observed Aug. 12.
34	. .	. .	. .	+ 49.7	58.6	46 41 53.4	7 48 14.2	21.0		
35	29.965	76.0	74.9	+ 3 29.2	59.1	46 54 32.5	8 0 53.3	20.0		
36	29.976	76.0	73.5	— 6 45.0	1 35.8	59 59 56.1	21 6 16.9	2.9		
37	. .	. .	. .	— 18.9	1 10.1	51 40 56.5	12 47 17.3	— 0.7		
38	. .	. .	. .	+ 1 33.9	1 10.2	51 42 49.4	12 49 10.2	+ 0.4		
39	. .	. .	73.0	29.4	1 9.4	51 21 44.9	12 28 5.7	2.9		
40	. .	. .	. .	2 41.7	4 1.0	77 21 50.6	38 28 11.4	13.6		
41	. .	. .	. .	+ 59.5	4 0.5	77 20 7.9	38 26 28.7	13.9		
42	29.974	75.2	72.6	— 1 27.7	1 1.7	47 59 41.1	9 6 1.9	8.6		
43	. .	. .	72.0	2 8.3	3 4.2	73 26 3.0	34 32 23.8	20.0		
44	. .	. .	. .	3 48.2	3 35.8	75 49 55.5	36 56 16.3	26.0		
45	29.962	74.7	71.5	— 3 19.5	1 32.2	58 58 18.3	20 4 39.1	24.8		
46	. .	. .	. .	+ 2 2.5	1 21.3	55 38 29.8	16 44 50.6	30.0		
47	. .	. .	. .	— 1 14.7	1 22.9	56 10 13.7	17 16 34.5	32.6		
48	. .	. .	71.0	1.1	1 19.2	54 56 22.7	16 2 43.5	35.2		
49	. .	. .	. .	53.9	2 54.8	72 32 7.2	33 38 28.0	42.1		
50	. .	. .	. .	2 40.2	2 54.5	72 30 20.6	33 36 41.4	44.6		
51	29.955	73.7	70.0	3 38.3	1 2.7	48 22 30.3	9 28 51.1	43.6		
52	. .	. .	. .	1 45.1	4 15.7	78 2 37.3	39 8 58.1	48.7		
53										Very good.
54	. .	. .	. .	3 55.2	1 41.6	61 17 53.4	22 24 14.2	53.1		
55	29.960	73.2	69.4	— 5 0.2	1 41.6	61 16 48.4	22 23 9.2	55.3		
56	. .	. .	69.1	+ 3 47.4	1 42.2	61 25 36.6	— 22 31 57.4	+ 56.6		Sky clear.
57	29.934	70.8	66.8	— 1 10.3	41.0	36 14 40.9	+ 2 38 58.3			Hazy; very faint. Too hazy to see Juno at its transit.
58	. .	. .	. .	+ 1 3.5	21.9	25 1 34.2	13 36 14.9		Ha.	
59	29.980	77.5	83.2	— 2 16.4	22.4	25 33 14.4				
60	. .	. .	. .	— 1 27.0	0.2	0 13 40.6	38 39 56.6	— 9.9		
61										
62	29.982	74.5	70.1	+ 27.9	30.5	28 36 4.4	10 17 34.8	+ 20.0		
63	. .	. .	. .	+ 54.6	23.7	26 31 27.3	+ 12 38 3.1		D.	
64	30.134	76.0	80.3	— 45.4	+ 23.2	25 59 44.8				

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER Observed.	Nadir cor.	Corrd
						° ′ ″	″	″	″	″	″	″	r.	r.	r.
1865. Aug. 19	1	Mercury	..	5	I-IX.	128 45 7.9	8.9	6.1	3.4	6.1	3.8	6.03	32.875	+ 0.361	33.2
	2	Weisse XVII, 697	..	1	VI.	136 50 8.0	7.9	7.0	1.9	6.5	3.3	5.77	29.625	..	29.6
	3	Weisse XVII, 755	..	3	III-VII.	" " "	"	"	"	"	"	"	33.832	..	33.8
	4	Anon. 17h. 55m. 46s.	..	5	I-IX.	151 45 8.0	6.6	8.2	2.3	5.1	2.0	5.37	35.534	..	35.5
	5	B. A. C. 6190	..	5	I-IX.	157 40 8.0	6.9	8.5	3.8	4.1	2.0	5.55	43.276	..	43.2
	6	B. A. C. 6249	..	5	I-IX.	159 20 6.7	6.9	8.9	3.4	4.1	1.0	5.17	31.784	..	31.9
	7	O. Arg. S. 18314	8.0	3	III-VII.	150 29 66.3	65.7	67.8	62.0	63.9	59.8	64.25	32.303	..	32.3
	8	Weisse XVIII, 779	..	5	I-IX.	140 5 8.1	8.0	7.2	3.0	5.5	2.0	5.63	28.571	..	28.5
	9	Weisse XVIII, 874	..	5	I-IX.	140 20 9.3	8.0	7.7	3.7	6.1	3.0	6.30	29.282	..	29.2
	10	Weisse XVIII, 1480	8.0	5	I-IX.	138 0 9.9	9.2	8.9	4.2	6.9	3.9	7.16	32.420	..	32.4
	11	β Coronæ Australis	5.0	4	VI-IX.	168 20 9.3	7.3	6.5	7.5	5.3	3.0	6.48	25.633	..	25.6
	12	Anon. 19h. 16m. 26s.	8.0	3	III-VII.	152 20 8.9	7.8	10.1	4.8	6.2	3.1	6.82	34.570	..	34.5
	13	Anon. 19h. 17m. 33s.	8.0	1	IX.	" " "	"	"	"	"	"	"	38.237	..	38.2
	14	O. Arg. S. 20320	..	5	I-IX.	146 10 9.0	8.0	8.3	4.2	5.3	3.7	6.42	32.009	..	32.0
	15	O. Arg. S. 20343	7.5	2	VII, IX.	" " "	"	"	"	"	"	"	34.803	..	34.8
	16	O. Arg. S. 20442	..	2	VI, VIII.	144 55 7.9	7.0	6.0	1.7	4.2	1.8	4.77	29.593	..	29.5
	17	Lacaille 8492	..	5	I-IX.	159 50 8.0	6.3	10.1	5.7	3.7	0.5	5.72	36.064	..	36.0
	18	μ Aquarii	..	4	I,III,VII,IX.	138 25 8.0	7.8	7.3	4.0	5.0	1.3	5.57	36.585	..	36.5
	19	B. A. C. 7312	7.0	5	I-IX.	146 40 7.0	6.5	6.5	3.0	3.7	1.0	4.62	41.869	..	41.8
	20	θ Capricorni	6.0	2	VIII, IX.	" " "	"	"	"	"	"	"	33.823	..	33.8
	21	Nadir 21h. 20m.	..	4	..	270 0 7.0	6.0	8.0	3.8	5.3	3.2	5.55	29.820	..	..
	22	Juno	7.5	2	III, VI.	128 55 6.0	7.2	5.0	2.7	2.5	1.7	4.18	31.479	..	31.4
	23	Lalande 46609	..	3	I, III, VI.	134 5 6.4	8.0	7.7	4.2	4.2	1.5	5.33	29.788	..	29.7
	24	Weisse XXIII, 848	..	3	V-IX.	" " "	"	"	"	"	"	"	32.794	..	32.7
	25	Schjellerup 9921	..	3	II-VIII.	125 30 6.3	8.8	9.0	4.9	4.8	1.5	5.88	26.066	..	26.0
	26	Santini 1	..	5	I-IX.	126 10 6.2	8.0	7.0	3.5	4.1	1.9	5.12	27.592	..	27.5
	27	Lalande 130	..	5	I-IX.	123 5 6.9	7.2	8.0	4.9	3.3	0.7	5.17	33.898	..	33.8
	28	Weisse O, 247	..	3	V-IX.	122 39 66.5	66.0	67.2	63.1	61.8	59.5	64.02	35.727	..	35.7
	29	B. A. C. 138	..	5	I-IX.	134 10 8.9	10.3	10.0	7.5	7.3	4.3	8.05	30.231	..	30.2
	30	Anon. 0h. 38m. 1s.	..	2	I, IV.	126 20 9.0	9.3	9.0	5.9	5.7	2.2	6.85	20.422	..	20.4
	31	Neptune	..	5	I-IX.	" " "	"	"	"	"	"	"	37.788	..	37.7
	32	Weisse O, 807	..	3	V-IX.	118 30 8.9	9.5	8.6	6.0	5.0	2.4	6.73	30.934	..	30.9
21	33	Sun N. L.	..	4	I-IV.	116 40 9.8	8.2	8.0	2.1	7.2	5.0	6.72	31.482	+ 0.433	31.9
	34	Sun S. L.	..	4	VI-IX.	117 10 9.0	8.0	7.0	2.0	7.4	3.8	6.20	28.245	..	28.2
	35	β Leonis	..	1	IX.	113 35 9.2	8.3	8.0	4.0	8.5	6.4	7.40	32.116	..	32.1
	36	α Bootis	..	3	IV-VI.	109 0 9.7	8.0	6.0	1.9	7.9	6.2	6.62	29.610	..	29.6
	37	Nadir 20h. 20m.	..	3	..	270 0 20.2	18.0	20.9	14.0	21.0	16.7	18.47	30.156	..	..
	38	B. A. C. 7146	6.0	3	III-V.	113 30 10.8	9.9	11.1	5.0	9.0	6.1	8.65	28.193	..	28.2
	39	α Delphini	5.0	3	VI, VIII, IX.	" " "	"	"	"	"	"	"	36.451	..	36.4
	40	Piazzi XX, 401	..	1	V.	85 5 10.0	9.7	14.8	7.8	13.3	9.9	10.92	35.930	..	35.9
22	41	Venus, centre	..	5	I-IX.	108 10 9.6	16.0	16.0	12.9	9.5	3.2	11.20	31.769	+ 0.411	32.1
23	42	Nadir 18h. 40m.	..	5	..	270 0 9.6	11.1	13.0	10.1	10.4	3.1	9.55	29.890	..	..
	43	θ Serpentis, (1st *)	..	3	I-IX.	124 55 9.8	13.8	13.9	10.0	9.0	3.0	9.92	37.907	..	37.9
	44	θ Serpentis, (2d *)	..	2	III, VII.	" " "	"	"	"	"	"	"	37.750	..	37.7
	45	Weisse XVIII, 1334	8.0	3	I-IX.	137 10 9.2	11.5	12.3	8.9	8.0	1.1	8.50	30.009	..	30.0
	46	Weisse XVIII, 1335	8.5	2	III, VII.	" " "	"	"	"	"	"	"	28.987	..	28.9
	47	33 Cygni	..	3	III-VII.	72 45 10.8	14.8	17.1	15.1	13.9	6.8	13.08	31.610	..	31.6
	48	O. Arg. S. 20442	..	3	III-VII.	144 55 10.1	12.1	13.0	9.0	8.9	1.7	9.13	29.805	..	29.8
	49	τ^2 Capricorni	..	3	III-VII.	144 20 9.9	12.2	13.0	10.8	8.8	1.2	9.32	34.659	..	34.6
	50	B. A. C. 7205	..	3	III-VII.	155 10 9.3	12.0	14.7	10.0	8.0	1.0	9.16	33.981	..	34.0
	51	Anon. 0h. 38m. 1s.	..	3	III-VII.	126 25 9.9	13.0	14.1	11.2	8.1	2.2	9.75	30.123	..	30.1
	52	Neptune	..	3	III-VII.	126 20 10.0	13.1	13.9	11.9	8.2	2.2	8.22	34.053	..	34.0
	53	Venus N. L.	..	4	I,II,VIII,IX.	108 15 10.0	17.0	14.5	14.1	10.0	5.1	11.45	31.646	..	31.6
	54	Venus S. L.	..	3	IV-VI.	" " "	"	"	"	"	"	"	30.975	..	31.0
24	55	Sun S. L.	..	2	I, III.	118 10 9.7	14.0	9.9	11.1	7.5	3.2	9.23	26.289	..	26.2
	56	Sun N. L.	..	2	VII, IX.	117 40 9.8	13.0	..	10.0	8.6	3.2	9.37	29.500	..	29.5
	57	Mercury	..	5	I-IX.	129 50 8.8	11.3	8.5	8.1	8.4	2.1	7.87	28.739	..	28.7
	58	Weisse (2) XVII, 1601	..	5	I-IX.	110 30 8.8	11.3	10.3	8.6	9.0	2.7	8.45	26.028	..	26.0
	59	B. A. C. 6190	..	5	I-IX.	157 34 67.0	69.8	70.1	68.0	66.5	59.9	66.88	33.867	..	34.0
	60	O. Arg. S. 18115, S. *	..	2	I, IX.	144 0 8.7	11.4	11.0	8.3	9.0	2.0	8.40	27.564	..	27.6
	61	O. Arg. S. 18115, N. *	..	1	V.	" " "	"	"	"	"	"	"	27.912	..	27.9
	62	O. Arg. S. 18395	..	5	I-IX.	146 35 8.3	10.0	10.1	8.0	7.0	2.1	7.58	39.134	..	39.1
	63	O. Arg. S. 18625	..	5	I-IX.	149 40 8.1	10.0	11.8	9.0	7.8	0.7	7.90	32.276	..	32.2

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.114	78.2	82.0	— 1 41.4	+ 38.3	38 44 2.9	+ 0 9 36.3		D.	Cor. for defective illumination = + 1″.19.
2	. .	. .	. .	+ 0.4	59.3	46 51 5.4	— 7 57 26.2	— 21.2		
3	30.084	77.0	73.7	— 2 11.4	59.3	46 48 53.6	7 55 14.4	20.3		
4	. .	. .	. .	3 5.1	1 43.1	61 43 43.3	22 50 4.1	9.8		
5	. .	.	. .	7 7.8	2 14.0	67 35 11.7	28 41 32.5	— 3.5		
6	30.090	76.2	73.7	1 7.6	2 26.4	69 21 23.9	30 27 44.7	+ 0.1		
7	. .	. .	. .	— 1 20.4	1 38.1	60 30 21.9	21 36 42.7	— 0.7		
8	. .	. .	. .	+ 33.3	1 6.6	50 6 45.5	11 13 6.3	— 0.2		
9	. .	. .	. .	+ 11.0	1 7.2	50 21 24.5	11 27 45.3	+ 1.1		
10	. .	. .	. .	— 1 27.3	1 1.9	47 59 41.7	9 6 2.5	8.6		Whole rev. recorded, 28.
11	. .	. .	. .	+ 2 5.0	4 23.9	78 26 35.3	39 32 56.1	16.8		
12	. .	. .	. .	— 2 34.7	1 45.9	62 19 18.0	23 25 38.8	18.0		Whole rev. not read. (See September 12.)
13	30.091	75.7	72.3	4 30.0	1 45.8	62 17 22.6	23 23 43.4	18.4		Bar. recorded by amanuensis, 31.91.
14	. .	. .	. .	1 14.5	1 23.3	56 10 15.2	17 16 36.0	32.6		
15	30.088	75.0	70.7	— 2 42.0	1 23.3	56 8 47.7	17 15 8.5	33.2		
16	. .	. .	. .	+ 1.3	1 19.7	54 56 25.7	16 2 46.5	35.2		
17	. .	. .	70.3	— 3 21.8	2 31.0	69 49 14.9	30 55 35.7	40.9		
18	. .	. .	. .	3 37.9	1 3.0	48 22 30.6	9 28 51.4	43.5		
19	. .	. .	. .	6 23.6	1 24.8	56 35 5.8	17 41 26.6	47.5		
20	30.101	74.0	69.8	2 11.4	1 25.1	56 39 18.3	17 45 39.1	47.8		
21										
22	30.088	72.5	67.5	57.7	45.5	38 54 51.9	0 1 12.7			
23	. .	. .	. .	4.8	54.6	44 5 55.1	5 12 15.9	75.5		
24	. .	. .	. .	— 1 38.9	54.5	44 4 20.9	— 5 10 41.7	75.6		
25	. .	. .	. .	+ 1 52.0	40.3	35 32 38.1	+ 3 21 1.1	76.9		
26	. .	. .	. .	+ 1 4.2	41.3	36 11 50.6	2 41 48.6	78.0		
27	. .	. .	. .	— 2 13.4	36.7	33 3 28.4	5 50 10.8	77.9		
28	. .	. .	. .	3 10.6	36.1	32 37 29.5	+ 6 16 9.7	79.1		
29	. .	. .	. .	— 18.6	54.8	44 10 44.2	— 5 17 5.0	76.6		
30	. .	. .	. .	+ 4 48.8	41.6	36 25 37.2	+ 2 28 2.0	78.2		
31	. .	. .	. .	— 4 15.4	41.3	36 16 32.7	2 37 6.5			
32	30.090	71.3	66.5	40.4	30.6	28 29 56.9	10 23 42.3	+ 79.9		Barometer and thermometer at 1h. 8m.
33	29.928	79.0	87.6	— 59.4	23.3	26 39 30.6 }	11 58 18.3		Ha.	
34	. .	. .	. .	+ 41.2	23.9	27 11 11.3 }				
35	29.892	81.5	91.8	— 1 19.3	23.4	23 34 11.5	15 19 27.7	— 92.4	D.	
36	29.852	83.0	89.5	— 1.3	18.5	19 0 23.8	9 53 15.4	— 85.3		Circle reading recorded 119°.
37									Ha.	
38	. .	. .	. .	+ 43.1	24.0	23 31 15.7	15 22 23.5	+ 37.4		
39	29.818	78.0	74.8	— 3 35.4	+ 23.9	23 26 57.1	15 26 42.1	37.5		
40	. .	. .	74.6	3 19.4	— 4.8	355 1 46.7	43 51 52.5	43.0		
41	29.968	64.0	65.1	1 8.0	+ 15.8	18 9 19.0	20 44 20.2			
42										Mercury so unsteady as to make it almost impossible to get a nadir.
43	. .	. .	. .	4 20.6	39.7	34 51 29.0	4 2 10.2	2.1		
44	. .	. .	. .	4 15.7	39.7	34 51 33.9	+ 4 2 5.3	2.1		
45	.	. .	. .	— 13.3	1 1.5	47 10 56.7	— 8 17 17.5	6.5		
46	30.040	66.0	60.8	+ 18.8	+ 1 1.5	47 11 28.8	— 8 17 49.6	6.5		
47	. .	. .	. .	— 1 2.9	— 17.8	342 43 52.3	+ 56 9 46.9	27.3		
48	30.052	65.0	60.4	6.9	+ 1 21.2	54 56 23.4	— 16 2 44.2	35.2		
49	. .	. .	. .	2 39.0	1 19.5	54 18 49.8	15 25 10.6	40.3		
50	30.058	64.5	59.1	2 17.8	2 3.0	65 9 54.3	— 26 16 15.1	44.6		
51	. .	. .	. .	16.7	42.6	36 25 35.6	+ 2 28 3.6	+ 77.7		
52	30.090	62.0	56.1	2 19.9	42.2	36 18 30.5	2 35 8.7			
53	. .	. .	. .	1 4.0	16.2	18 14 23.6 }	20 39 5.3		D.	Mic. B recorded 7″.0; D, 4″.1.
54	30.210	63.0	63.7	— 43.4	16.2	18 14 44.2 }				
55	. .	. .	. .	+ 1 44.1	26.3	28 12 19.6 }				
56	30.216	68.0	68.7	2.5	25.7	27 40 37.5 }	+ 10 57 10.7			[= + 1″.66.
57	30.212	69.7	70.2	26.6	41.0	39 51 15.4	— 0 57 36.2			Very faint, but steady. Cor. for defective ill.
58	30.212	67.2	61.8	+ 1 51.9	21.5	20 32 21.8	+ 18 21 17.4	— 23.7		Double. Taken as one object.
59	. .	. .	. .	— 2 14.5	2 17.8	67 35 10.1	— 28 41 30.9	2.1		
60	. .	. .	. .	+ 1 3.9	1 18.9	54 2 31.2	15 8 52.0	5.5		} Double. Angle, 135°. Circle reading rec. 114°.
61	. .	. .	. .	+ 52.6	1 18.9	54 2 19.9	15 8 40.7	5.5		
62	30.219	66.2	60.4	— 4 59.4	1 26.6	56 31 34.7	17 37 55.5	— 0.6		
63	. .	. .	. .	— 1 24.5	+ 1 37.9	59 40 21.3	— 20 46 42.1	+ 4.1		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Aug. 24	1	50 Draconis	..	5	III–VII.	53 40 8.9	12.0	14.6	13.0	11.9	5.8	11.03	34.729	+ 0.411	35.111
	2	Weisse XVIII, 1398	..	2	IV, VI.	136 25 9.0	13.0	13.0	9.9	11.0	4.0	9.98	30.453	..	30.864
	3	Weisse XVIII, 1412	..	3	VI, VIII, IX.	" " "	"	"	"	"	"	"	28.361	..	28.772
	4	Weisse XIX, 167	..	3	V–IX.	137 45 9.0	11.4	10.9	8.3	8.6	1.8	8.33	24.638	..	25.050
	5	Anon. 19h. 16m. 27s.	..	3	II, IV, V.	152 20 8.0	10.3	12.2	9.3	8.2	1.8	8.30	34.765	..	35.182
	6	Anon. 19h. 17m. 34s.	..	1	IX	" " "	"	"	"	"	"	"	38.430	..	38.857
	7	O. Arg. S. 20217	..	2	III, VII.	145 40 7.0	10.3	10.5	7.1	7.4	1.1	7.23	35.390	..	35.816
	8	Lacaille 8399	..	3	III–VII.	162 0 7.3	10.7	12.5	10.1	6.2	1.2	8.00	31.017	..	31.434
	9	Lacaille 8414	..	3	III–VII.	" " "	"	"	"	"	"	"	29.718	..	30.135
	10	Nadir 21h.	..	4	..	270 0 6.8	10.9	10.8	9.6	8.5	3.0	8.27	29.857	..	..
	11	Anon. 0h. 38m. 1s.	..	1	V.	126 18 54.8	69.6	69.3	67.2	65.6	54.5	63.50	18.483	+ 0.447	18.930
	12	Neptune	..	3	III–VII.	" " "	"	"	"	"	"	"	31.023	..	31.470
	13	Rumker N. F., 329	..	1	V.	118 53 62.6	67.6	65.2	63.9	60.6	53.4	62.22	34.140	..	34.587
	14	Rumker N. F., 354	..	1	V.	" " "	"	"	"	"	"	"	16.698	..	17.145
	15	Nadir 1h. 25m.	..	4	..	269 58 62.9	69.4	69.0	69.6	65.2	59.5	65.93	27.828	..	..
	16	Venus, centre	..	5	I–IX.	108 20 9.9	15.4	13.9	11.1	10.3	4.0	10.77	29.724	+ 0.411	30.126
25	17	Sun N. L.	..	4	I–IV.	118 0 10.1	11.6	10.0	7.3	8.8	3.8	8.60	28.165	..	28.558
	18	Sun S. L.	..	4	VI–IX.	118 30 9.2	12.1	9.0	6.9	8.2	2.9	8.05	24.819	..	25.229
	19	Mercury	..	3	III–VII.	129 55 10.0	12.0	8.9	7.0	9.1	3.3	8.38	28.085	..	28.496
	20	β Leonis	..	5	I–IX.	113 35 10.2	13.0	11.0	8.5	11.0	5.9	9.93	32.250	..	32.654
	21	95[1] Herculis	..	3	I–IX.	107 20 9.6	13.2	12.0	6.2	12.8	5.4	9.87	35.451	..	35.849
	22	95[2] Herculis	..	2	III, VII.	" " "	"	"	"	"	"	"	35.465	..	35.870
	23	70[1] Ophiuchi	..	3	I–IX.	126 20 9.6	10.2	9.1	4.0	9.1	3.0	7.50	28.549	..	28.959
	24	70[2] Ophiuchi	..	2	III, VII.	" " "	"	"	"	"	"	"	28.502	..	28.912
	25	O. Arg. S. 18000	7.0	3	III–VII.	147 35 10.2	11.0	11.9	5.0	8.5	3.2	8.30	26.195	..	26.609
	26	O. Arg. S. 18015	7.0	2	VI, VIII.	" " "	"	"	"	"	"	"	35.418	..	35.832
	27	δ Ursæ Minoris	..	2	4, 5.	42 20 10.4	13.5	15.9	11.1	16.1	7.3	12.38	33.744	..	34.153
	28	O. Arg. S. 18395	..	1	..	146 35 10.0	9.8	10.7	5.7	9.0	4.0	8.20	39.077	..	39.507
	29	Weisse XVIII, 1020	7.0	3	III–VII.	135 5 9.9	11.0	9.0	5.0	10.5	3.7	8.18	36.443	..	36.855
	30	Weisse XVIII, 1334	8.0	3	I–IX.	137 10 10.1	12.2	11.1	6.0	10.5	3.9	8.97	28.927	..	29.343
	31	Weisse XVIII, 1335	7.5	2	III, VII.	" " "	"	"	"	"	"	"	29.954	..	30.367
	32	56 Aquilæ	..	3	III–VII.	137 50 10.7	12.5	11.8	7.2	10.8	3.5	9.42	34.548	..	34.961
	33	λ Ursæ Minoris	..	3	2–4.	40 0 10.0	13.0	16.0	12.5	13.9	7.1	12.08	29.750	..	30.159
	34	O. Arg. S. 20320	..	3	III–VII.	146 10 9.9	11.9	12.0	7.9	10.0	4.0	9.28	32.121	..	32.535
	35	O. Arg. S. 20443	..	3	III–VII.	151 40 10.1	11.5	13.3	8.0	10.0	4.0	9.48	33.957	..	34.372
	36	Nadir 20h. 25m.	..	3	..	270 0 9.8	11.9	11.5	9.0	11.3	5.9	9.90	29.906	..	..
	37	Juno	..	1	V.	129 50 9.3	12.0	11.0	8.8	9.8	2.1	8.83	25.571	..	25.982
	38	Lalande 46609	8.0	3	III–VII.	134 5 10.1	14.0	14.0	10.9	10.8	5.0	10.80	29.938	..	30.350
	39	Weisse XXIII, 848	8.5	2	V, IX.	" " "	"	"	"	"	"	"	32.953	..	33.364
	40	Weisse XXIII, 1099	8.5	1	V.	134 35 10.0	14.1	13.5	11.1	11.4	4.0	10.68	33.910	..	34.321
	41	O. Arg. N. 26423	7.5	1	V.	75 50 10.0	12.9	17.2	13.0	14.0	6.4	12.25	28.323	..	28.734
	42	O. Arg. N. 15	8.0	1	VII.	" " "	"	"	"	"	"	"	30.088	..	30.476
	43	Weisse O, 247	8.5	1	V.	122 40 10.0	14.1	13.2	10.5	9.6	4.1	10.25	35.860	..	36.271
	44	B. A. C. 138	7.5	3	III–VII.	134 10 10.0	15.0	14.2	11.5	12.0	5.3	11.33	30.317	..	30.729
	45	Anon. 0h. 38m. 1s.	..	3	III–VII.	126 25 10.1	14.0	13.7	9.8	10.9	3.2	10.28	30.117	..	30.528
	46	Neptune	..	3	III–VII.	" " "	"	"	"	"	"	"	41.631	..	42.042
	47	Polaris	..	3	2–4.	40 20 10.0	14.5	17.9	16.0	13.3	7.5	13.20	31.090	..	31.500
	48	Venus N. L.	..	4	I, II, VIII, IX.	108 25 10.0	16.3	14.1	12.2	10.9	5.7	11.53	27.520	..	27.917
	49	Venus S. L.	..	3	IV–VI.	" " "	"	"	"	"	"	"	26.836	..	27.246
26	50	Sun N. L.	..	2	I, III.	118 20 10.0	13.0	10.0	8.8	9.0	4.9	9.28	26.545	..	26.934
	51	Sun S. L.	..	2	V, VIII.	118 50 11.7	14.4	10.5	9.1	10.0	5.9	10.27	23.271	..	23.686
	52	Mercury	..	4	II–VIII.	130 0 11.6	13.0	9.3	7.9	10.0	6.0	9.63	33.454	..	33.865
	53	O. Arg. S. 20246	..	5	I–IX.	153 10 7.7	6.0	9.2	3.0	5.7	3.0	5.77	34.383	..	34.805
	54	O. Arg. S. 20384	..	5	I–IX.	" " "	"	"	"	"	"	"	29.349	..	29.771
	55	Anon. 20h. 14m. 35s.	..	5	I–IX.	162 20 8.6	8.0	9.9	5.2	6.3	3.0	6.83	31.624	..	32.052
	56	Nadir 20h. 40m.	..	4	..	270 0 8.0	7.4	8.0	4.0	9.1	5.0	6.92	29.809	..	..
	57	B. A. C. 7312	..	5	I–IX.	146 35 8.1	6.2	7.5	1.7	6.2	2.5	5.37	32.264	..	32.683
	58	θ Capricorni	5.0	1	IX.	" " "	"	"	"	"	"	"	24.237	..	24.659
	59	O. Arg. S. 21138	..	1	IX.	146 10 7.8	8.0	8.6	2.0	7.0	2.3	5.95	33.767	..	34.188
	60	Weisse XXI, 506	..	3	II–VIII.	138 5 7.6	7.7	7.3	2.4	7.4	1.6	5.66	32.387	..	32.801
	61	Weisse XXI, 623	..	3	II–VIII.	137 40 7.1	8.0	6.8	1.8	6.9	1.6	5.37	28.197	..	28.611
	62	Weisse XXI, 1002	..	5	I–IX.	141 10 7.4	6.1	8.0	3.0	6.1	1.3	5.32	37.148	..	37.564
	63	Weisse XXI, 1085	..	3	II–VIII.	136 5 7.7	9.0	8.3	3.3	7.9	2.8	6.50	37.064	..	37.477
	64	O. Arg. S. 21903	..	2	VII, IX.	154 15 5.7	6.4	8.2	1.0	4.3	0.1	4.28	34.453	..	34.876
	65	Weisse XXII, 153	..	2	VII, IX.	127 35 6.9	6.2	5.8	1.8	5.0	0.6	4.38	28.171	..	28.578

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	− 2 40.2	− 42.4	323 36 48.4	+ 75 16 50.8	− 4.9	D.	
2	. .	. .	. .	− 27.1	+ 1 0.5	46 25 43.3	− 7 32 4.1	+ 7.1		
3	. .	. .	. .	+ 38.5	1 0.5	46 26 48.9	7 33 9.7	7.3		
4	. .	. .	. .	+ 2 35.1	1 3.5	47 48 46.9	8 55 7.7	12.1		
5	. .	. .	. .	− 2 42.4	1 49.4	62 19 15.3	23 25 36.1	18.3		
6	30.232	64.5	58.3	4 37.6	1 49.3	62 17 20.0	23 23 40.8	18.7		Faint, uncertain. Whole rev. recorded, 37. (See Sept. 12.) Bar. and ther. at 19h. 25m.
7	30.234	63.8	57.3	3 1.9	1 24.3	55 38 29.6	16 44 50.4	30.2		
8	. .	. .	. .	44.9	2 56.1	72 2 19.2	33 8 40.0	37.4		Sky very clear, but stars rather unsteady through the evening.
9	. .	. .	57.1	− 4.2	2 56.2	72 3 0.0	− 33 9 20.8	38.0		
10										Image vibratory.
11	. .	. .	. .	+ 5 46.9	43.0	36 25 33.4	+ 2 58 5.8	77.7	H. *	* Professor Hall.
12	30.252	60.0	53.4	− 46.1	42.7	36 19 0.1	2 34 39.1			
13	. .	. .	. .	− 2 23.8	32.1	28 52 10.5	10 1 28.7	79.1		
14	30.252	59.3	53.4	+ 6 42.9	32.4	29 1 17.5	9 52 21.7	+ 79.2		Barometer and thermometer at 1h. 11m. 47s.
15										
16	30.332	63.0	66.4	− 4.0	16.3	18 20 23.0	20 33 16.2		Ha.	
17	30.326	69.0	76.7	+ 45.2	25.8	28 1 19.6	+ 10 36 27.6			
18	. .	. .	. .	2 29.2	26.4	28 33 3.6				
19	30.316	71.2	76.1	+ 47.1	40.8	39 56 36.2	− 1 2 57.0		D.	Cor. for defective illumination = + 1″.78.
20	30.316	71.5	76.3	− 1 23.2	24.4	23 34 11.1	+ 15 19 28.1	− 92.3		
21	. .	. .	. .	3 3.3	17.7	17 17 24.2	21 36 15.0	22.6	Ha.	
22	. .	. .	. .	− 3 4.0	17.7	17 17 23.5	21 36 15.7	22.6		
23	30.292	70.0	66.1	+ 32.6	41.9	36 21 22.0	2 32 17.2	16.5		
24	. .	. .	. .	34.1	41.9	36 21 23.5	+ 2 32 15.7	16.5		
25	. .	. .	. .	+ 1 46.3	1 29.6	57 38 24.2	− 18 44 45.0	6.0		
26	. .	. .	. .	− 3 2.8	+ 1 29.4	57 33 34.9	− 18 39 55.7	5.7		
27	30.298	69.5	65.2	2 10.2	− 1 2.6	312 16 59.5	+ 86 36 39.7	19.2		
28	. .	. .	. .	4 58.0	+ 1 26.0	56 31 36.2	− 17 37 57.0	− 0.6		Observed 1m. 12s. after transit.
29	. .	. .	. .	− 3 34.8	57.1	45 2 30.4	6 8 51.2	+ 0.6		
30	. .	. .	. .	+ 20.6	1 1.6	47 11 31.1	8 17 51.9	6.4		
31	30.302	68.5	64.0	− 11.5	1 1.6	47 10 59.0	8 17 19.8	6.4		
32	30.294	67.0	61.2	2 35.5	+ 1 3.3	47 48 37.2	− 8 54 58.0	25.1		
33	. .	. .	. .	5.0	− 1 8.5	309 58 58.5	+ 88 54 40.7	23.6		
34	. .	. .	. .	1 19.4	+ 1 25.6	56 10 15.4	− 17 16 36.2	30.8		
35	30.292	66.0	60.5	− 2 17.0	1 46.2	61 39 38.6	22 45 59.4	36.6		
36										
37	30.276	62.5	57.0	+ 2 5.9	48.4	39 53 3.1	0 59 23.9			
38	. .	. .	. .	− 11.0	56.1	44 5 55.9	5 12 16.7	75.2		
39	. .	. .	. .	1 45.4	56.1	44 4 21.5	5 10 42.3	75.3		
40	. .	. .	. .	− 2 15.4	+ 57.0	44 33 52.2	− 5 40 13.0	75.8		
41	. .	. .	. .	+ 39.7	− 14.6	345 50 37.3	+ 53 3 1.9	87.3		
42	. .	. .	. .	− 15.0	− 14.6	345 49 42.6	53 3 56.6	87.4		
43	. .	. .	. .	3 16.5	+ 37.1	32 37 30.8	+ 6 16 8.4	78.4		
44	. .	. .	. .	22.8	56.3	44 10 44.8	− 5 17 5.6	76.3		
45	. .	. .	. .	16.5	42.8	36 25 36.5	+ 2 28 2.7	77.7		
46	. .	. .	. .	6 17.4	+ 42.4	36 19 35.2	2 34 4.0			
47	30.270	61.5	56.5	− 47.0	− 1 8.3	310 18 17.9	88 35 21.3	96.3		
48	. .	. .	. .	+ 1 5.3	+ 16.2	18 26 33.0	20 26 55.7		D.	
49	30.290	64.0	70.2	1 26.3	16.2	18 26 54.0				
50	. .	. .	. .	1 36.1	25.8	28 22 11.1	+ 10 15 36.4			Circle reading recorded 118° 10′.
51	30.250	70.7	81.0	+ 3 17.9	26.4	28 53 54.5				
52	30.232	73.0	81.1	− 2 1.1	40.2	39 58 48.7	− 1 5 9.5			Cor. for defective illumination = + 1″.90.
53	30.190	72.3	69.8	− 2 30.6	1 50.6	63 9 25.7	24 15 46.5	32.4		
54	. .	. .	. .	+ 7.2	1 50.9	63 12 3.8	24 18 24.6	35.8		
55	. .	. .	69.4	− 1 4.3	2 54.8	72 21 57.3	33 28 18.1	37.9		
56										
57	. .	. .	. .	− 1 24.1	1 25.3	56 35 6.5	17 41 27.3	47.7		
58	. .	. .	. .	+ 2 47.4	1 25.5	56 39 18.2	17 45 39.0	48.0		
59	30.160	72.0	68.0	− 2 11.3	1 23.9	56 9 18.5	17 15 39.3	48.6		
60	. .	. .	. .	− 1 27.8	1 2.9	48 4 40.7	9 11 1.5	53.3		
61	. .	. .	. .	+ 43.5	1 2.1	47 41 50.9	8 48 11.7	54.4		
62	. .	. .	. .	− 3 57.0	1 10.1	51 7 18.4	12 13 39.2	58.2		
63	30.160	71.0	66.6	3 54.3	58.6	46 2 10.8	7 8 31.6	58.8		
64	. .	. .	. .	− 2 32.8	1 56.6	64 14 28.0	− 25 20 48.8	62.5		
65	30.160	71.0	66.3	+ 44.6	+ 43.6	37 36 32.5	+ 1 17 6.7	+ 63.3		Circle reading recorded 137° 25′.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Transit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean	ROMETER. Observed.	Nadir cor.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.
Aug. 26	1	Anon. 0h. 38m. 1s.	. .	3	I-V.	126 20 8.5	11.1	9.3	6.0	9.0	3.5	7.90	20.359	+ 0.411
	2	Neptune	. .	5	I-IX.	" " "	"	"	"	"	"	"	30.996	. .
27	3	Venus S. L.	. .	3	I-IX.	108 40 8.8	12.7	11.8	6.9	8.1	4.1	8.73	28.069	+ 0.436
	4	Venus N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	28.620	. .
28	5	Sun S. L.	. .	2	I, III.	119 35 10.4	11.8	9.0	6.0	9.0	4.2	8.40	28.457	. .
	6	Sun N. L.	. .	2	VII, IX.	119 5 14.0	14.3	11.0	7.8	11.0	6.9	10.83	31.788	. .
29	7	B. A. C. 6346	. .	5	I-IX.	152 10 8.5	8.2	10.8	5.1	6.0	2.6	6.87	30.800	+ 0.441
	8	O. Arg. S. 18623	. .	5	I-IX.	150 0 8.8	8.8	11.0	6.0	6.0	2.0	7.10	29.893	. .
	9	β Coronæ Australis	. .	5	I-IX.	168 20 8.9	8.2	12.3	7.3	6.1	1.4	7.37	25.691	. .
	10	ϵ^1 Sagittarii	5.0	3	V-IX.	145 30 9.0	9.2	10.1	4.2	7.2	3.2	7.15	33.706	. .
	11	α Aquilæ	. .	3	III-VII.	120 25 8.5	8.3	9.9	4.3	7.0	2.3	6.72	35.844	. .
	12	O. Arg. S. 20246	8.7	3	III-VII.	153 5 8.9	8.0	11.0	6.9	6.8	3.0	7.43	24.865	. .
	13	O. Arg. S. 20384	8.4	5	I-IX.	" " "	"	"	"	"	"	"	19.853	. .
	14	57 Cygni	. .	1	IX.	85 0 8.7	9.9	14.2	10.1	11.2	8.0	10.35	28.746	. .
	15	Piazzi XX, 401	. .	3	V-IX.	" " "	"	"	"	"	"	"	26.399	. .
	16	B. A. C. 7290	. .	1	IX.	" " "	"	"	"	"	"	"	36.802	. .
	17	O. Arg. S. 21129	. .	3	III-VII.	151 45 8.0	8.2	10.9	6.0	5.7	1.2	6.67	31.647	. .
	18	Weisse XXI, 543	. .	3	II-VIII.	138 15 8.2	9.3	10.0	5.2	6.1	2.2	6.83	35.079	. .
	19	B. A. C. 7490	. .	5	I-IX.	149 35 7.9	7.3	10.3	6.1	5.0	0.3	6.15	34.176	. .
	20	O. Arg. S. 21562	. .	5	III-VII.	151 24 67.5	67.0	70.0	65.1	64.7	59.5	65.63	31.880	. .
	21	Weisse XXI, 1087	. .	3	II-VIII.	140 55 7.0	7.5	9.2	4.0	4.0	0.6	5.38	35.496	. .
	22	O. Arg. S. 21903	9.5	1	VII.	154 15 7.8	8.0	10.5	4.4	4.9	0.0	5.93	34.655	. .
	23	Weisse XXII, 113	8.0	3	V-IX.	128 0 7.0	7.1	7.5	3.8	4.3	1.0	5.12	37.496	. .
	24	B. A. C. 7827	. .	5	I-IX.	124 55 6.7	9.3	9.7	4.8	5.1	2.0	6.27	36.755	. .
	25	Wash. Z., LIV, 17	. .	5	I-IX.	156 24 66.4	67.0	69.0	64.9	63.9	59.7	65.15	29.193	. .
	26	18 Piscis Australis	. .	3	VII-IX.	156 34 64.7	65.9	67.1	63.9	62.0	57.4	63.50	28.066	. .
	27	Lalande 45028	. .	5	I-IX.	133 25 7.8	9.9	10.0	6.8	5.7	3.7	7.32	27.394	. .
	28	Weisse XXII, 1223	. .	3	III-VII.	133 50 7.4	9.0	9.8	6.7	6.9	4.0	7.30	27.031	. .
	29	Weisse XXII, 1248	. .	2	V, VII.	" " "	"	"	"	"	"	"	33.628	. .
	30	Nadir 23h. 40m.	. .	4	. .	270 0 8.3	9.0	10.7	8.1	7.9	4.0	8.00	29.815	. .
	31	Anon. 0h. 38m. 1s.	. .	3	III-VII.	126 25 8.2	8.7	9.7	4.4	6.1	1.1	6.37	30.039	. .
	32	Neptune	. .	3	V-IX.	" " "	"	"	"	"	"	"	37.448	. .
31	33	Moon N. L., (Def.)	. .	5	I-IX.	147 40 7.0	5.9	7.1	0.9	4.0	1.7	4.43	40.850	. .
	34	Lacaille 8045	. .	4	I-IV.	162 35 7.0	6.0	8.0	2.2	4.0	1.5	4.78	27.464	. .
	35	Lacaille 8051	. .	4	VI-IX.	" " "	"	"	"	"	"	"	28.093	. .
	36	B. A. C. 6607	. .	5	I-IX.	151 30 6.0	4.9	7.0	0.1	3.1	0.0	3.52	28.292	. .
	37	O. Arg. S. 19715	. .	3	III-VII.	148 44 66.3	64.3	65.1	59.9	62.7	58.3	62.77	32.817	. .
	38	O. Arg. S. 19732	. .	2	VI, IX.	" " "	"	"	"	"	"	"	31.394	. .
	39	Anon. 19h. 36m. 45s.	. .	5	I-IX.	152 5 8.7	6.3	9.0	2.9	6.4	2.2	5.92	35.292	. .
	40	Anon. 19h. 59m. 22s.	9.0	1	IX.	168 0 8.4	6.7	10.1	4.8	6.0	1.7	6.28	29.027	. .
	41	Weisse XX, 46	7.0	3	III-VII.	138 10 8.7	7.9	7.5	1.8	6.1	2.1	5.68	36.279	. .
	42	Lacaille 8399	8.0	5	III-VII.	162 0 8.1	6.6	9.3	3.9	5.0	2.0	5.82	30.734	. .
	43	Lacaille 8414	8.0	5	III-VII.	" " "	"	"	"	"	"	"	29.450	. .
	44	Nadir 20h. 40m.	. .	4	. .	270 0 8.6	6.0	8.2	3.1	7.7	4.8	6.40	29.761	. .
	45	Venus N. L	. .	3	I-IX.	109 15 9.5	11.1	10.3	5.1	8.9	4.2	8.18	28.131	+ 0.465
	46	Venus S. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	27.596	. .
Sept. 1	47	Sun N. L.	. .	4	I-IV.	120 30 9.7	10.8	9.0	5.6	10.3	5.7	8.52	29.322	. .
	48	Sun S. L.	. .	4	VI-IX.	121 0 8.4	9.2	8.0	4.8	7.1	5.0	7.08	26.024	. .
	49	δ Ursæ Minoris	. .	3	V-5.	42 20 10.9	11.4	14.9	8.9	13.9	9.5	11.58	33.826	. .
	50	ν^1 Sagittarii	6.0	3	I-V.	151 45 10.4	7.4	10.9	2.6	7.0	4.8	7.18	27.478	. .
	51	Anon. 18h. 46m. 9s.	8.0	2	VIII, IX.	" " "	"	"	"	"	"	"	34.057	. .
	52	ν^2 Sagittarii	6.0	1	IX.	" " "	"	"	"	"	"	"	35.612	. .
	53	υ Draconis	. .	3	V-VII.	57 50 11.0	11.0	15.3	9.6	13.9	12.0	12.13	38.106	. .
	54	B. A. C. 6565	7.0	5	I-IX.	156 0 10.0	7.8	9.3	2.9	6.2	4.0	6.70	34.965	. .
	55	Nadir	. .	3	. .	270 0 9.8	6.3	9.6	2.9	8.1	6.0	7.12	29.762	. .
	56	Moon S. L.	. .	3	III-VII.	146 25 9.9	7.0	9.2	2.1	6.8	4.6	6.60	30.859	. .
	57	Juno	8.0	1	V.	131 10 9.0	8.2	10.0	3.9	5.1	3.2	6.57	31.380	. .
	58	Lalande 46609	7.5	3	III-VII.	134 5 9.9	11.0	12.5	6.0	8.6	6.0	9.00	29.743	. .
	59	Weisse XXIII, 848	8.0	3	V-IX.	" " "	"	"	"	"	"	"	32.757	. .
	60	Weisse XXIII, 1099.	8.0	3	III-VII.	134 35 10.0	10.3	11.3	6.1	7.9	5.1	8.45	33.674	. .
	61	O. Arg. N. 26423	8.5	1	V.	75 50 10.1	10.6	16.3	9.9	12.5	8.3	11.23	28.331	. .
	62	O. Arg. N. 14	8.5	1	VII.	" " "	"	"	"	"	"	"	30.111	. .
	63	Anon. 0h. 38m. 1s.	. .	5	I-IX.	126 25 9.4	9.3	10.9	4.9	7.0	4.0	7.67	29.962	. .
	64	Neptune	. .	3	V-IX.	" " "	"	"	"	"	"	"	34.130	. .

Number	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	+ 4 48.3	+ 41.9	36 25 38.1	+ 2 28 1.1	+ 77.5	D.	
2	30.120	68.7	63.6	— 44.1	41.6	36 20 5.4	2 33 33.8			Bar. and thermometer at 0h. 57m.
3	30.172	70.0	71.5	+ 47.5	16.3	18 41 12.5			Ha.	
4	. .	. .	. .	30.1	16.3	18 40 55.1	20 12 35.4			Cor. for defective illumination = — 0′.08
5	. .	. .	. .	+ 35.7	27.3	29 36 11.4			D.	
6	30.158	74.2	77.3	— 1 9.7	26.7	29 4 27.8	+ 9 33 19.6			
7	30.180	73.7	70.6	39.2	1 46.0	62 11 13.6	— 23 17 34.4	2.6		
8	. .	. .	. .	— 10.8	1 37.1	60 1 33.4	21 7 54.2	4.2		
9	30.191	73.5	70.0	+ 2 0.6	4 26.1	78 26 34.0	39 32 54.8	17.6		Circle reading recorded 152°.
10	. .	. .	. .	— 2 10.1	1 21.8	55 29 18.8	— 16 35 39.6	22.1		
11	30.200	73.0	69.1	+ 3 17.0	33.0	30 22 22.7	+ 8 31 16.5	20.4		
12	. .	. .	. .	+ 2 27.0	1 50.9	63 9 25.3	— 24 15 46.1	32.4		
13	30.196	72.5	68.6	5 3.9	+ 1 51.1	63 12 2.4	— 24 18 23.2	35.9		
14	. .	. .	. .	27.1	— 4.9	355 0 32.5	+ 43 53 6.7	39.8		Whole rev. recorded, 34.
15	. .	. .	. .	+ 1 39.8	4.9	355 1 45.2	43 51 54.0	40.7		
16	. .	. .	. .	— 3 45.3	— 5.0	354 56 20.0	+ 43 57 19.2	41.5		
17	30.191	71.7	67.3	1 5.6	+ 1 44.8	61 45 45.8	— 22 52 6.6	49.2		
18	. .	. .	. .	2 53.1	1 3.3	48 13 17.0	9 19 37.8	53.5		
19	. .	. .	. .	2 25.0	1 36.1	59 34 17.2	20 40 38.0	55.5		
20	. .	. .	. .	1 12.8	1 43.6	61 25 36.4	22 31 57.2	57.1		
21	. .	. .	. .	3 6.2	1 9.6	50 53 8.7	11 59 29.5	59.0		
22	. .	. .	. .	2 39.9	1 56.9	64 14 22.9	— 25 20 43.7	62.7		Faint; bisection uncertain.
23	. .	. .	. .	4 8.8	44.2	37 56 40.5	+ 0 56 58.7	62.6		
24	30.198	70.0	65.7	— 3 45.5	39.6	34 52 0.3	+ 4 1 38.9	65.4		
25	. .	. .	. .	+ 11.1	2 9.4	66 27 25.6	— 27 33 46.4	67.5		
26	. .	. .	. .	46.4	2 10.5	66 38 0.4	27 44 21.2	67.8		
27	. .	. .	. .	1 7.8	53.8	43 27 8.9	4 33 29.7	70.6		
28	. .	. .	. .	+ 1 19.1	54.6	43 52 21.0	4 58 41.8	71.0		
29	. .	. .	65.1	— 2 7.5	54.5	43 48 54.3	— 4 55 15.1	71.2		
30										
31	. .	. .	. .	15.0	42.0	36 25 33.3	+ 2 28 5.9	77.2		
32	30.208	70.0	64.0	4 7.2	+ 41.8	36 21 40.9	+ 2 31 58.3			Barometer and thermometer at 1h. 5m.
33	30.264	77.7	75.6	— 5 54.2	— 31 2.9	57 3 7.3	— 18 9 28.1			
34	. .	. .	. .	+ 1 5.1	+ 2 56.1	72 39 5.9	33 45 26.7	18.1		
35	. .	. .	75.8	45.5	2 56.0	72 38 46.2	33 45 7.0	18.4		
36	. .	. .	. .	+ 39.4	1 42.5	61 32 25.4	22 38 46.2	16.8		
37	. .	. .	. .	— 1 42.2	1 31.8	58 44 52.3	19 51 13.1	20.7		
38	. .	. .	. .	57.7	1 31.8	58 45 36.8	19 51 57.6	21.1		
39	30.274	77.2	74.7	— 2 59.7	1 45.0	62 3 51.2	23 10 12.0	24.9		
40	. .	. .	. .	+ 15.6	4 17.0	78 4 38.8	39 10 59.6	36.0		
41	. .	. .	. .	— 3 30.7	1 2.4	48 7 37.3	9 13 58.1	30.4		
42	. .	. .	. .	— 37.0	2 50.6	72 2 19.4	33 8 40.2	37.8		
43	30.278	77.0	73.5	+ 3.3	2 50.7	72 2 59.8	— 33 9 20.6	+ 38.4		
44										
45	30.224	75.0	79.1	44.4	16.6	19 16 9.1				Image dim but steady.
46	. .	. .	. .	1 0.9	16.8	19 16 25.8	+ 19 37 21.7		Ha.	Cor. for defective illumination = — 0″.14.
47	. .	. .	. .	7.2	27.8	30 30 43.5				
48	30.184	80.0	87.4	+ 1 49.7	+ 28.4	31 2 25.1	8 7 4.9			
49	30.096	80.5	78.3	— 2 14.5	— 1 0.6	312 16 56.4	+ 86 36 42.8	— 20.1		
50	. .	. .	. .	+ 1 4.1	+ 1 42.7	61 47 53.9	— 22 54 14.7	+ 7.9		
51	. .	. .	. .	— 2 22.1	1 42.5	61 44 27.5	22 50 48.3	7.9		
52	. .	. .	. .	3 11.0	+ 1 42.4	61 43 38.5	— 22 49 59.3	+ 8.2		
53	. .	. .	. .	3 25.3	— 34.9	327 46 11.9	+ 71 7 27.3	— 4.6		
54	30.100	79.5	76.5	2 50.6	+ 2 3.6	65 59 19.7	— 27 5 40.5	+ 15.8		
55										
56	30.102	79.5	75.9	41.6	— 62 46.6	55 21 38.4	16 27 59.2			
57	30.062	76.5	72.6	57.8	+ 48.7	41 9 57.4	2 16 18.2			
58	. .	. .	. .	6.5	54.0	44 5 56.5	5 12 17.3	74.7		
59	. .	. .	. .	1 41.0	53.9	44 4 21.9	5 10 42.7	74.7		
60	. .	. .	. .	— 2 9.7	+ 54.9	44 33 53.6	— 5 40 14.4	75.3		
61	. .	. .	. .	+ 37.7	— 14.1	345 50 34.8	+ 53 3 4.4	85.0		
62	. .	. .	. .	— 17.4	— 14.1	345 49 39.7	53 3 59.5	85.0		
63	. .	. .	. .	13.4	+ 41.2	36 25 35.4	2 28 3.8	+ 76.7		
64	30.052	76.0	72.0	— 2 23.9	+ 40.9	36 23 24.6	+ 2 30 14.6			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Sept. 5	1	Sun S. L.	..	2	I, III.	122 30 10.0	11.9	10.2	7.9	7.7	6.5	9.03	29.221	+ 0.455	29.656
	2	Sun N. L.	..	3	V–IX.	122 0 11.0	12.6	12.5	8.2	9.0	6.2	9.92	32.539	..	33.003
6	3	Sun N. L.	..	4	I–IV.	122 20 9.1	6.8	7.7	2.8	5.2	4.2	5.97	27.945	..	28.390
	4	Sun S. L.	..	4	VI–IX.	122 50 9.6	6.9	7.7	2.4	5.5	4.8	6.15	24.507	..	24.977
	5	1 Aquilæ	..	5	I–IX.	137 9 60.1	65.2	66.8	59.6	64.9	63.6	65.03	24.845	..	25.304
	6	α Lyræ	..	3	III–VII.	90 15 9.9	6.5	8.9	1.9	7.6	7.2	7.00	32.440	..	32.887
	7	ϵ^1 Sagittarii	..	3	III–VII.	145 29 69.5	64.7	67.2	58.4	64.2	63.7	64.62	33.468	..	33.935
	8	56 Aquilæ	..	3	III–VII.	137 50 9.9	6.2	7.5	0.3	5.0	3.2	5.35	34.248	..	34.705
	9	Weisse XIX, 1244	8.8	1	V.	127 20 9.3	5.0	6.2	0.2	4.7	3.3	4.78	32.085	..	32.540
	10	Weisse XIX, 1377, S.*	7.7	2	IV, VI.	118 29 69.6	65.5	65.7	59.9	64.0	63.3	64.67	29.444	..	29.898
	11	Weisse XIX, 1377, N.*	8.3	1	V.	" " "	"	"	"	"	"	"	29.585	..	30.040
	12	Weisse XIX, 1394	6.5	1	VII.	" " "	"	"	"	"	"	"	28.262	..	28.712
	13	Weisse XX, 104	6.3	1	V.	132 15 10.4	5.9	7.9	0.5	4.6	4.0	5.55	27.211	..	27.666
	14	Nadir 20h. 30m.	..	3	..	270 0 9.4	4.0	8.0	0.5	6.4	4.8	5.52	29.720	..	..
	15	Juno	..	1	V.	132 10 9.6	5.9	7.8	1.1	3.2	1.9	4.92	32.530	..	32.985
	16	ι Piscium	..	4	I–IV.	124 0 9.2	6.9	9.5	2.8	6.1	5.1	6.60	31.854	..	32.310
	17	ι Piscium, (Ref.)	..	3	VII–IX.	236 0 10.3	5.1	12.5	7.3	7.2	7.3	8.28	27.716	..	28.170
	18	B. A. C. 8314	..	3	IV–V.	55 15 8.1	6.2	12.6	6.0	9.4	5.6	7.98	30.761	..	31.210
	19	B. A. C. 8314, (Ref.)	..	3	VII–IX.	304 44 67.6	62.6	67.5	58.6	63.8	60.0	63.35	28.553	..	29.109
	20	α Andromedæ, (Ref.)	..	3	V–IX.	259 25 7.9	2.9	9.0	2.2	5.9	4.4	5.38	24.787	..	25.251
	21	Moon N. L.	..	3	VII–IX.	124 45 9.7	7.2	10.1	2.1	5.9	4.0	6.50	27.402	..	27.856
	22	Anon. 0h. 38m. 1s.	..	3	I–V.	126 25 8.7	5.3	7.9	0.1	4.1	1.5	4.60	29.887	..	30.344
	23	Neptune	..	3	V–IX.	" " "	"	"	"	"	"	"	28.419	..	28.871
7	24	Sun N. L.	..	3	V–IX.	122 45 8.1	7.0	7.7	3.0	4.0	4.0	5.63	32.768	..	33.233
11	25	Sun N. L.	..	4	I–IV.	124 15 8.1	7.8	8.5	2.5	6.7	4.3	6.32	31.250	..	31.686
	26	Sun S. L.	..	4	VI–IX.	124 45 6.5	6.1	7.5	0.1	4.6	1.7	4.42	27.745	..	28.213
	27	Nadir 13h.	..	3	..	270 0 9.1	4.6	7.5	1.0	6.0	4.4	5.43	29.717	..	..
	28	α Lyræ	..	5	I–IX.	90 15 10.2	7.6	9.5	3.9	8.9	7.5	7.93	32.480	..	32.915
	29	Weisse XVIII, 1277	9.0?	1	V.	138 25 9.3	5.0	6.5	0.9	4.5	1.7	4.65	36.430	..	36.885
	30	κ Aquilæ	..	4	I–IV.	136 10 9.1	7.5	8.7	1.6	7.1	3.8	6.30	26.222	..	26.683
	31	κ Aquilæ, (Ref.)	..	1	IX.	223 45 9.0	3.0	10.2	3.0	5.5	4.9	5.93	23.675	..	24.119
	32	O. Arg. N. 19614	8.5	1	V.	70 45 6.8	4.9	9.1	2.4	8.3	6.4	6.32	34.694	..	35.149
	33	57 Aquilæ, S.*	7.0	3	II, V, VII.	137 30 8.9	7.1	7.1	0.9	6.0	2.2	5.37	34.586	..	35.044
	34	57 Aquilæ, N.*	6.5	2	IV, VI.	" " "	"	"	"	"	"	"	35.718	..	36.174
	35	Weisse XIX, 1377, S.*	8.5	3	I–IX.	118 30 8.8	5.9	5.9	0.1	5.0	3.1	4.80	29.478	..	29.927
	36	Weisse XIX, 1377, N.*	9.0	2	III, VII.	" " "	"	"	"	"	"	"	29.641	..	30.093
	37	α Cygni	..	4	I–IV.	84 5 9.1	7.6	11.9	4.5	10.3	7.8	8.53	29.280	..	29.714
	38	α Cygni, (Ref.)	..	4	VI–IX.	275 54 67.2	62.0	66.7	59.7	65.9	63.1	64.10	30.228	..	30.704
	39	Juno	..	5	I–IX.	133 10 8.3	6.5	7.9	2.1	5.2	3.7	5.62	29.575	..	30.032
	40	θ Piscium, (Ref.)	..	4	I–IV.	236 45 9.2	3.6	12.0	5.0	7.9	7.1	7.47	28.524	..	28.984
	41	θ Piscium	..	4	VI–IX.	123 15 8.1	6.3	8.3	2.6	5.4	2.6	5.55	31.004	..	31.454
	42	γ Cephei, (Ref.)	..	5	IV–VI.	307 59 68.8	65.9	69.1	59.5	65.2	62.2	65.12	32.233	..	32.698
	43	Nadir 23h. 45m.	..	3	..	270 0 7.3	4.1	7.5	1.3	6.1	2.8	4.85	29.707	..	..
	44	4 Draconis, S. P., (Ref.)	..	3	II, III, V.	332 45 8.4	7.0	12.4	2.9	6.8	1.6	6.52	34.122	..	34.509
	45	Anon. 0h. 38m. 1s.	..	1	IV.	126 25 9.6	7.0	9.0	2.0	6.4	3.1	6.18	29.990	..	30.446
	46	Neptune	..	1	IX.	" " "	"	"	"	"	"	"	22.547	..	22.995
	47	Venus S. L.	..	4	I,II,VIII,IX.	111 35 9.2	10.7	9.8	7.3	7.8	7.1	8.65	25.644	..	26.087
	48	Venus N. L.	..	3	IV–VI.	" " "	"	"	"	"	"	"	26.174	..	26.628
12	49	Sun S. L.	..	2	VII, IX.	125 10 11.0	11.4	10.1	5.8	10.0	7.7	9.33	31.783	..	32.253
	50	Lacaille 7962	..	5	I–IX.	167 20 7.8	6.0	9.0	3.1	5.2	3.1	5.70	37.006	..	37.481
	51	Lacaille 8045	7.5	2	IV, V.	162 35 8.0	6.0	8.0	1.8	4.5	3.2	5.25	27.477	..	27.934
	52	Lacaille 8051	7.0	3	V, VI, VIII.	" " "	"	"	"	"	"	"	27.998	..	28.459
	53	Anon. 19h. 16m. 29s.	..	3	I–V.	152 20 8.0	5.9	8.0	1.8	5.4	4.0	5.52	34.357	..	34.823
	54	Anon. 19h. 17m. 36s.	8.5	3	III–VII.	" " "	"	"	"	"	"	"	38.148	..	38.607
	55	Anon. 19h. 22m. 55s.	8.7	1	V.	" " "	"	"	"	"	"	"	37.751	..	38.206
	56	Anon. 19h. 23m. 38s.	7.0	2	VII, IX.	" " "	"	"	"	"	"	"	40.506	..	40.971
	57	O. Arg. S. 19880	7.5	3	III–VII.	153 35 9.0	6.1	8.0	2.0	3.0	4.1	5.37	33.486	..	33.946
	58	O. Arg. N. 19614	..	3	IV–VI.	70 45 9.3	8.4	11.2	5.9	11.0	10.9	9.45	34.790	..	35.240
	59	Lacaille 8300	..	4	I–IV.	167 50 9.0	6.0	10.0	5.4	6.1	4.0	6.75	36.776	..	37.254
	60	Lacaille 8298	..	4	VI–IX.	" " "	"	"	"	"	"	"	26.572	..	27.044
	61	B. A. C. 7111	..	3	III–VII.	151 50 10.0	8.4	10.0	4.0	7.7	5.0	7.52	36.977	..	37.436
	62	γ^1 Delphini	6.5	4	I,II,VIII,IX.	113 15 8.3	8.3	10.0	4.5	7.2	7.0	7.55	30.967	..	31.411
	63	γ^2 Delphini	6.0	3	IV–VI.	" " "	"	"	"	"	"	"	30.954	..	31.408
	64	3 Piscis Australis	..	5	I–IX.	157 0 10.2	9.0	10.0	5.1	7.0	5.2	7.75	27.474	..	27.942

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. . .	. . .	. . .	+ 10.8	+ 30.2	32 30 50.0	+ 6 38 41.5		D.	Behind clouds, but steady.
2	30.092	80.0	84.4	− 1 34.1	29.6	31 59 5.4				Brighter, but rather unsteady.
3	. . .	. . .	. . .	+ 50.8	29.6	32 21 26.3	+ 6 16 19.2		N.	
4	29.980	84.3	90.2	2 37.4	30.2	32 53 13.7				
5	. . .	. . .	. . .	+ 2 27.2	59.1	47 13 31.3	− 8 19 52.1	− 3.0		
6	29.955	82.7	80.5	− 1 30.5	0.2	0 13 36.7	+ 38 40 2.5	− 13.0		
7	29.972	82.0	80.2	2 3.0	1 19.5	55 29 21.1	− 16 35 41.9	+ 22.3		
8	. . .	. . .	. . .	2 27.5	1 0.4	47 48 38.2	− 8 54 59.0	24.9		
9	. . .	. . .	. . .	− 1 19.6	41.8	37 19 26.9	+ 1 34 12.3	23.4		
10	. . .	. . .	. . .	+ 3.2	29.8	28 30 37.6	10 23 1.6	23.2		
11	. . .	. . .	. . .	− 1.3	29.8	28 30 33.1	10 23 6.1	23.2		Double.
12	. . .	. . .	. . .	+ 40.4	29.8	28 31 14.8	+ 10 22 24.4	23.4		Double.
13	29.974	82.0	79.7	+ 1 13.2	49.9	42 17 8.6	− 3 23 29.4	29.7		
14										
15	29.970	80.0	76.0	− 1 33.5	50.0	42 9 21.4	− 3 15 42.2			
16	. . .	. . .	. . .	− 1 12.4	+ 37.3	33 59 31.5	+ 4 54 7.7	74.6		
17	. . .	. . .	. . .	+ 57.4	− 37.3	146 0 28.3	4 54 7.6			
18	. . .	. . .	. . .	− 38.0	− 38.4	325 13 51.5	73 39 47.7	85.3		
19	29.966	79.5	75.5	+ 27.9	+ 38.4	214 46 9.6	73 39 48.9			
20	. . .	. . .	. . .	2 28.8	− 10.3	169 27 23.8	28 21 3.1	79.5		
21	29.968	79.0	75.5	+ 1 7.2	− 17 17.2	34 28 56.5	4 24 42.7			
22	. . .	. . .	. . .	− 10.8	+ 40.8	36 25 34.6	2 28 4.6	+ 76.4		
23	. . .	. . .	. . .	+ 35.4	40.6	36 26 20.6	2 27 18.6			
24	30.018	82.7	86.8	− 1 41.3	16 25.6	32 59 49.9	5 53 49.3		D.	Behind clouds, but pretty well defined.
25	. . .	. . .	. . .	− 52.9	32.5	34 14 45.9	4 22 59.5		N.	
26	30.122	78.0	84.1	+ 56.0	33.1	34 46 33.5				
27										
28	. . .	. . .	. . .	− 1 31.3	0.2	0 13 36.8	+ 38 40 2.4	− 13.6		
29	. . .	. . .	. . .	− 3 35.8	1 2.3	48 22 31.1	− 9 28 51.9	+ 5.4		Doubtful about tenths of revolutions.
30	. . .	. . .	. . .	+ 1 44.0	+ 57.8	46 12 48.1	7 19 8.9	18.4		
31	30.090	78.5	76.1	+ 3 4.3	− 57.8	133 47 12.4	− 7 19 8.3	18.4		
32	. . .	. . .	. . .	− 2 41.4	− 19.4	340 42 5.5	+ 58 11 33.7	11.6		
33	. . .	. . .	. . .	2 38.1	+ 1 0.4	47 28 27.6	− 8 34 48.4	24.8		Angle 80°.
34	. . .	. . .	. . .	− 3 13.5	1 0.4	47 25 52.2	− 8 34 13.0	24.8		Angle 80°.
35	. . .	. . .	. . .	+ 2.3	30.1	28 30 37.2	+ 10 23 2.0	22.6		Angle 265°.
36	30.092	. .	76.0	− 2.9	+ 30.1	28 30 32.0	10 23 7.2	22.6		Angle 265°.
37	. .	. .	. .	+ 9.0	− 5.8	354 5 11.7	44 48 27.5	32.4		
38	. .	. .	. .	− 22.1	+ 5.8	185 54 47.8	+ 44 48 27.1			
39	30.081	77.0	73.4	− 1.0	+ 52.2	43 10 56.8	− 4 17 17.6			
40	. .	. .	. .	+ 31.8	− 36.5	146 45 2.7	+ 5 38 42.0	73.1		
41	. .	. .	. .	− 45.6	+ 36.5	33 14 56.4	5 38 42.8	73.1		
42	. .	. .	. .	1 24.6	43.5	217 59 24.0	76 53 3.3	+ 81.9		
43										
44	30.085	76.5	73.1	2 21.3	1 47.6	242 44 32.8	78 21 47.9	− 89.5		
45	. .	. .	. .	− 14.0	41.1	36 25 33.2	2 28 6.0	+ 76.0		
46	. .	. .	73.2	+ 3 39.5	41.1	36 29 26.7	2 24 12.5			Cloudy; faint and uncertain.
47	. .	. .	. .	2 2.6	19.1	21 37 30.3	17 16 17.5		D.	
48	30.176	77.5	80.8	+ 1 45.7	+ 18.9	21 37 13.2				Cor. for defective illumination = − 0″.24.
49	30.176	81.0	85.5	− 1 10.6	− 15 23.0	34 53 35.7	+ 4 0 3.5			
50	30.191	81.0	78.7	− 3 54.5	+ 3 59.5	77 20 10.7	− 38 26 31.5	16.0		
51	. .	. .	. .	+ 1 4.7	2 54.8	72 39 4.7	33 45 25.5	18.9		
52	. .	. .	. .	+ 48.3	2 54.8	72 38 48.3	33 45 9.1	19.1		
53	. .	. .	. .	− 2 31.2	1 45.2	62 19 19.5	23 25 40.3	18.8		Took special notice of whole rev.
54	30.194	80.8	77.8	4 29.8	1 45.1	62 17 20.8	23 23 41.6	19.2		Took special notice of whole rev.
55	. .	. .	. .	4 17.2	1 45.1	62 17 33.4	23 23 54.2	21.0		
56	. .	. .	. .	5 43.9	1 45.0	62 16 6.6	23 22 27.4	21.2		
57	. .	. .	. .	2 3.7	+ 1 51.1	63 34 52.7	− 24 41 13.5	25.2		
58	. .	. .	. .	2 49.2	− 19.5	340 42 5.7	+ 58 11 33.5	11.4		
59	. .	. .	. .	− 3 47.4	+ 4 10.1	77 50 29.4	− 38 56 50.2	35.1		
60	30.208	80.2	77.0	+ 1 32.6	4 11.9	77 55 51.2	39 2 12.0	35.1		
61	30.224	79.8	77.0	− 3 53.1	1 43.3	61 47 57.7	− 22 54 18.5	41.8		
62	. .	. .	. .	44.2	23.9	23 14 47.2	+ 15 38 52.0	36.6		
63	. .	. .	. .	− 44.1	23.9	23 14 47.3	+ 15 38 51.9	36.6		
64	. .	. .	. .	+ 1 4.5	+ 2 10.5	67 3 22.7	− 28 9 43.5	+ 52.6		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Sept. 12	1	Weisse XXI, 506	. . .	3	III–VII.	138 10 10.8	9.8	9.7	5.0	8.6	6.0	8.32	41.968	+ 0.455	42.425
	2	Weisse XXI, 543	. . .	2	VII, IX.	" " "	"	"	"	"	"	"	25.452	. .	25.907
	3	B. A. C. 7490	. . .	3	V–VII.	149 35 10.2	8.9	10.2	5.6	6.6	4.9	7.73	34.133	. .	34.594
	4	O. Arg. S. 21550	. . .	5	I–IX.	" " "	"	"	"	"	"	"	17.214	. .	17.679
	5	Weisse XIX, 933	. . .	2	V, VII.	141 10 10.0	7.9	9.7	4.8	6.9	4.6	7.32	27.954	. .	28.419
	6	O. Arg. N. 23385	. . .	1	IX.	75 55 10.0	9.1	13.9	7.8	12.1	8.0	10.15	29.162	. .	29.549
	7	Nadir 22h. 50m.	. . .	4	. .	270 0 9.6	7.7	9.2	5.1	8.1	7.1	7.80	29.788	. .	. .
	8	Anon. 0h. 38m. 1s.	. . .	3	I, II, IV.	126 25 9.5	9.0	9.5	4.0	7.0	5.2	7.37	30.027	. .	30.484
	9	Neptune	. . .	3	VI, VIII, IX.	" " "	"	"	"	"	"	"	21.388	. .	21.839
	10	Weisse O, 786	. . .	1	VII.	118 40 9.3	9.0	7.0	3.7	6.2	4.6	6.63	25.490	. .	26.396
13	11	Weisse XIX, 341	. . .	3	III–VII.	133 50 10.1	6.5	9.1	2.1	7.3	5.7	6.80	26.315	+ 0.476	26.792
	12	α^2 Capricorni	. . .	5	I–IX.	141 50 9.9	6.1	10.2	2.8	6.0	3.2	6.37	30.199	. .	30.661
	13	α Delphini, (Ref.)	. . .	2	III, V.	246 35 8.6	5.1	11.7	5.6	8.3	6.8	7.68	32.674	. .	33.154
	14	Mercury	. . .	3	III–VII.	122 10 8.9	9.0	9.0	4.9	5.8	5.1	7.12	32.504	. .	32.995
14	15	Sun S. L.	. . .	4	I–IV.	125 55 8.9	9.3	9.9	3.5	6.7	5.0	7.22	29.737	+ 0.485	30.213
	16	Sun N. L.	. . .	4	VI–IX.	125 25 9.8	9.7	10.2	4.0	8.0	6.2	7.98	33.304	. .	33.809
	17	Lacaille 8120	. . .	5	III–VII.	161 15 10.1	7.1	13.0	4.0	5.9	5.0	7.52	34.166	. .	34.663
	18	Lalande 37221	. . .	5	I–IX.	151 15 9.0	7.3	10.0	3.1	6.0	4.0	6.57	32.062	. .	32.564
	19	γ Aquilæ	. . .	5	I–IX.	118 35 8.4	6.2	6.0	0.8	4.4	3.0	4.80	28.704	. .	29.191
	20	Weisse XIX, 1150	8.0	3	III–VII.	143 25 9.3	7.0	9.6	2.9	6.0	4.0	6.47	32.906	. .	33.401
	21	Lalande 38164	. . .	5	I–IX.	148 20 9.2	7.0	10.4	3.1	5.3	3.2	6.37	29.698	. .	30.199
	22	O. Arg. S. 20294	. . .	1	IX.	147 5 10.0	7.0	. .	2.2	6.0	4.1	6.91	29.807	. .	30.310
	23	α^1 Capricorni, (Ref.)	. . .	3	V–IX.	218 15 10.1	6.4	14.4	8.1	7.9	9.6	9.42	38.995	. .	39.490
	24	B. A. C. 7244	. . .	3	III–VII.	153 40 10.7	8.7	12.0	5.0	6.7	5.6	8.12	32.233	. .	32.729
	25	O. Arg. S. 21053	. . .	5	I–IX.	148 40 10.9	8.5	10.9	4.5	6.9	3.8	7.58	32.777	. .	33.278
	26	α Cephei, (Ref.)	. . .	5	III–VII.	293 5 7.7	5.3	8.8	5.7	5.8	3.8	6.18	25.226	. .	25.732
	27	Weisse XXI, 506	. . .	3	III–VII.	138 10 8.0	6.9	8.0	1.1	5.2	2.8	5.33	41.887	. .	43.390
	28	Weisse XXI, 543	. . .	3	V–IX.	" " "	"	"	"	"	"	"	25.343	. .	25.836
	29	B. A. C. 7490	. . .	2	VIII, IX.	149 35 8.3	5.9	9.7	2.8	4.0	2.0	5.45	34.012	. .	34.515
	30	O. Arg. S. 21550	. . .	3	III–VII.	" " "	"	"	"	"	"	"	17.148	. .	17.644
	31	Weisse XXI, 933	. . .	3	V–IX.	141 10 8.9	5.1	9.0	3.0	4.8	2.3	5.52	27.901	. .	28.396
	32	Weisse XXI, 1002	. . .	3	III–VII.	" " "	"	"	"	"	"	"	37.058	. .	37.552
	33	Anon. 21h. 47m. 47s.	9.5	1	. .	125 45 8.9	8.2	9.9	2.1	6.0	4.3	6.57	28.633	. .	29.111
	34	O. Arg. S. 21903	9.0	3	III–VII.	154 15 9.1	7.9	11.3	2.8	5.8	3.0	6.65	34.397	. .	34.894
	35	Weisse XXII, 153	7.5	1	IX.	127 35 9.5	7.0	9.1	2.3	6.1	4.0	6.33	28.157	. .	28.642
	36	B. A. C. 7827	. . .	4	VI–IX.	124 55 9.5	10.8	12.0	4.3	8.1	6.6	8.55	36.810	. .	37.297
	37	Anon. 22h. 30m. 57s.	. . .	5	I–IX.	156 25 9.9	8.9	11.8	4.9	6.6	4.2	7.72	29.127	. .	29.632
	38	B. A. C. 7898	. . .	4	VI–IX.	156 35 10.0	9.1	12.0	6.0	7.0	4.4	8.08	28.045	. .	28.547
	39	Lalande 45028	. . .	3	III–VII.	133 25 9.9	9.1	10.2	4.8	7.3	6.3	7.93	27.339	. .	27.832
	40	Weisse XXII, 1223	. . .	1	V.	133 50 9.2	8.0	11.1	5.0	8.1	6.9	8.05	26.948	. .	27.449
	41	Weisse XXII, 1248	. . .	1	V.	" " "	"	"	"	"	"	"	33.584	. .	34.076
	42	Juno	. . .	5	I–IX.	" " "	"	"	"	"	"	"	34.638	. .	35.132
	43	Radcliffe 6067	. . .	4	I–IV.	74 35 9.6	9.9	16.0	8.7	12.5	10.0	11.12	34.045	. .	34.506
	44	Radcliffe 6081	. . .	4	VI–IX.	74 45 10.0	10.0	14.8	9.2	11.1	9.0	10.68	27.711	. .	28.167
	45	Nadir 23h. 50m.	. . .	4	. .	270 0 10.0	8.7	11.9	6.1	10.2	6.7	8.93	29.793	. .	. .
	46	Neptune	. . .	3	I–V.	126 30 10.0	8.4	10.7	4.8	7.0	4.2	7.52	28.567	. .	29.060
	47	Anon. 0h. 38m. 5s.	. . .	2	VII, IX.	" " "	"	"	"	"	"	"	39.568	. .	40.055
	48	Weisse O, 836	. . .	1	VII.	133 40 9.8	9.7	11.3	5.8	8.2	6.4	8.53	37.723	. .	38.214
	49	Weisse O, 935	. . .	5	I–IX.	134 15 9.8	9.6	11.0	5.2	7.3	5.4	8.05	30.175	. .	30.670
	50	Weisse I, 13	. . .	1	V.	116 55 9.9	10.0	. .	5.5	8.0	5.7	8.12	28.588	. .	29.080
	51	Venus, mean of limbs.	. . .	5	I–IX.	112 25 10.4	9.0	11.4	4.4	7.9	5.7	8.13	27.497	. .	27.952
15	52	Sun N. L.	. . .	4	I–IV.	125 44 66.8	65.1	67.4	58.6	63.1	61.3	63.72	27.231	. .	27.677
	53	☉ Sun S. L.	. . .	4	VI–IX.	126 20 11.6	10.2	11.3	4.9	9.5	6.5	9.00	33.329	. .	33.805
	54	1 Aquilæ	. . .	5	I–IX.	137 14 69.6	65.6	68.0	59.4	64.9	63.1	65.10	34.423	. .	34.899
	55	β Lyræ	. . .	3	II–IV.	95 40 11.2	8.9	12.5	3.9	11.0	9.1	9.43	28.665	. .	29.119
	56	β Lyræ, (Ref.)	. . .	4	VI–IX.	264 20 10.4	4.4	11.0	2.6	9.1	8.4	7.65	30.911	. .	31.386
	57	ν Draconis	5.7	3	IV–VI.	57 50 8.2	4.2	11.4	3.0	9.0	7.9	7.28	36.015	. .	36.468
	58	O. Arg. N. 18967	8.7	1	V.	59 44 67.1	61.8	69.3	59.9	66.0	66.1	65.03	40.604	. .	41.066
	59	O. Arg. N. 18980	9.0	1	V.	" " "	"	"	"	"	"	"	24.537	. .	24.999
	60	23 Aquilæ	5.2	3	III–VII.	127 59 68.1	63.3	65.9	57.4	64.0	61.9	63.43	25.755	. .	26.217
	61	2 Sagittæ	6.0	1	V.	112 9 68.2	64.1	67.2	58.4	65.2	63.2	64.38	25.380	. .	25.842
	62	3 Sagittæ	6.3	1	V.	" " "	"	"	"	"	"	"	27.515	. .	27.977
	63	57 Aquilæ, N. *	5.2	2	III, VII.	137 25 11.0	7.8	10.3	1.9	8.0	4.5	7.25	26.185	. .	26.649
	64	57 Aquilæ, S. *	6.3	1	V.	" " "	"	"	"	"	"	"	25.061	. .	25.523
	65	Dorpat 2612, (1st *)	. .	1	V.	122 20 10.0	6.3	9.6	1.4	5.9	4.0	6.20	33.607	. .	34.069
	66	Dorpat 2612, (2d *)	. .	1	VIII.	" " "	"	"	"	"	"	"	34.324	. .	34.779

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 6 29.4	+ 1 1.9	48 4 40.8	— 9 11 1.6	+ 53.8	D.	
2	. .	. .	. .	+ 2 8.2	1 2.2	48 13 18.7	9 19 39.5	53.4		
3	. .	. .	. .	— 2 24.0	1 34.4	59 34 18.1	20 40 38.9	56.2		
4	. .	. .	. .	+ 6 26.2	1 35.1	59 43 9.0	20 49 29.8	57.4		
5	. .	. .	. .	49.8	+ 1 9.2	51 12 6.3	— 12 18 27.1	57.4		
6	30.239	79.0	75.7	+ 14.1	— 14.0	345 55 10.2	+ 52 58 29.0	58.7		
7										
8	. .	. .	. .	— 15.2	+ 41.2	36 25 33.3	2 28 5.9	75.9		
9	. .	. .	74.5	+ 4 15.8	41.2	36 30 4.3	2 23 34.9			
10	30.234	78.0	73.8	1 53.2	30.6	28 42 30.4	+ 10 11 8.8	76.7		Faint. Bar. and thermometer at 1h. 5m.
11	30.295	79.5	78.0	+ 1 40.5	53.4	43 52 40.7	— 4 59 1.5	12.5	N.	
12	. .	. .	. .	— 21.3	1 10.8	51 50 55.8	— 12 57 16.6	33.4		
13	30.305	79.0	76.6	1 38.8	24.2	23 26 55.4	+ 15 26 43.9	34.2		
14	30.294	79.5	84.0	1 33.9	26.8	32 9 0.0	6 44 39.2		D.	Cor. for defective illumination = — 1″.58.
15	. .	. .	. .	6.6	34.7	35 55 35.3 }	+ 3 14 0.3			
16	30.276	81.0	85.6	1 59.4	34.0	35 23 42.5 }				
17	30.200	80.0	77.7	2 26.2	2 41.5	71 15 22.8	— 32 21 43.6	23.2		
18	. .	. .	. .	— 1 20.3	1 40.7	61 15 26.9	— 22 21 47.7	23.7		
19	. .	. .	. .	+ 25.3	30.3	28 36 0.4	+ 10 17 38.8	17.1		
20	. .	. .	. .	— 1 46.6	1 14.6	53 24 34.4	— 14 30 55.2	26.0		
21	30.202	79.7	77.3	6.2	1 29.8	58 21 29.9	19 27 50.7	30.1		[B, E, F.
22	. .	. .	. .	9.7	1 25.6	57 6 22.8	18 12 43.6	32.7		Mic. C forgotten. 0″.14 added to mean of A,
23	. .	. .	. .	4 57.1	1 10.6	51 50 58.3	12 57 19.0	33.5		Circle reading recorded 218° 10′ ? Good.
24	. .	. .	. .	1 25.5	1 51.8	63 40 34.4	24 46 55.2	46.9		
25	30.187	79.2	75.9	— 1 42.7	1 31.0	58 39 55.8	— 19 46 16.6	48.1		
26	. .	. .	. .	+ 2 13.8	23.8	203 7 43.7	+ 62 1 23.0	44.6		
27	. .	. .	. .	— 6 28.0	1 1.9	48 4 39.2	— 9 11 0.0	53.0		Whole number rev. recorded, 42.
28	. .	. .	. .	+ 2 10.5	1 2.3	48 13 18.1	9 19 38.9	53.3		
29	. .	. .	. .	— 2 21.5	1 34.5	59 34 18.4	20 40 39.2	56.3		
30	. .	. .	. .	+ 6 27.2	1 35.1	59 43 7.7	20 49 28.5	57.4		
31	. .	. .	. .	+ 50.3	1 9.2	51 12 5.0	12 18 25.8	57.4		
32	. .	. .	. .	— 3 56.7	1 9.0	51 7 17.8	— 12 13 38.6	58.1		
33	. .	. .	. .	+ 27.9	40.2	35 46 14.6	+ 3 7 24.6	56.9		Faint; bisection uncertain. Taken as it passed
34	30.184	78.5	74.1	— 2 33.4	1 55.0	64 14 28.2	— 25 20 49.0	63.8		out of the field.
35	. .	. .	. .	+ 42.5	43.0	37 36 31.8	+ 1 17 7.4	61.7		
36	. .	. .	. .	— 3 48.7	38.9	34 51 58.7	+ 4 1 40.5	63.9		
37	. .	. .	. .	+ 11.5	2 7.3	66 27 26.5	— 27 33 47.3	69.0		
38	. .	. .	. .	45.5	2 8.3	66 38 1.8	27 44 22.6	69.3		
39	. .	. .	73.2	1 7.9	52.9	43 27 8.7	4 33 29.5	69.9		
40	. .	. .	. .	+ 1 20.2	53.7	43 52 21.9	4 58 42.7	70.4		Whole rev. not recorded.
41	. .	. .	. .	— 2 7.8	53.6	43 48 53.8	4 55 14.6	70.5		
42	30.161	77.5	73.4	2 40.8	+ 53.5	43 48 20.7	— 4 54 41.5			
43	. .	. .	. .	— 2 21.2	— 15.5	344 32 34.4	+ 54 21 4.8	75.3		
44	30.156	77.3	73.2	+ 57.4	— 15.2	344 45 52.8	54 7 46.4	75.7		
45										
46	. .	. .	. .	+ 29.5	+ 41.3	36 31 18.3	2 22 20.9	75.7		Whole rev. not recorded.
47	30.150	77.0	72.2	— 5 15.1	41.3	36 25 33.7	+ 2 28 5.5	74.6		
48	. .	. .	. .	4 17.4	53.2	43 36 44.2	— 4 43 5.0	74.2		
49	. .	. .	. .	— 21.0	54.5	44 15 41.5	— 5 22 2.3	+ 76.1		
50	. .	. .	72.5	+ 28.8	28.4	26 56 5.3	+ 11 57 33.9			— 0″.28 added to mean of A, B, E, F.
51	30.190	78.3	78.7	1 4.2	20.0	22 26 32.3	16 27 6.9		N.	Cor. for defective illumination = — 0″.11.
52	. .	. .	. .	+ 1 12.8	34.4	35 46 50.9 }	+ 2 50 51.4			
53	30.184	83.0	85.5	— 1 59.3	35.1	36 18 44.8 }				
54	30.177	82.0	78.2	— 2 33.2	59.8	47 13 31.7	— 8 19 52.5	— 3.2		
55	. .	. .	. .	+ 27.6	+ 5.5	5 40 42.5	+ 33 12 56.7	8.1		
56	. .	. .	. .	— 43.4	— 5.5	174 19 18.7	33 12 58.0			
57	. .	. .	. .	3 22.7	35.0	327 46 9.5	71 7 29.7	6.8		
58	. .	. .	. .	— 5 46.8	32.5	329 38 45.7	69 14 53.5	0.8		
59	. .	. .	. .	+ 2 36.7	— 32.3	329 47 9.4	69 6 29.8	— 0.5		
60	. .	. .	. .	1 58.6	+ 43.4	38 2 45.4	0 50 53.8	+ 9.7		
61	. .	. .	. .	2 10.3	22.7	22 12 37.3	16 41 1.9	7.8		Micrometer reading doubtful.
62	30.197	81.0	77.0	1 3.4	22.7	22 11 30.4	+ 16 42 8.8	7.9		
63	. .	. .	. .	1 45.0	1 0.6	47 27 52.8	— 8 34 13.6	24.7		} Angle 83°.
64	. .	. .	76.2	+ 2 20.3	1 0.6	47 28 28.1	— 8 34 48.9	24.1		
65	. .	. .	. .	— 2 7.5	35.2	32 18 33.9	+ 6 35 5.3	23.2		} Angle 320°.
66	. .	. .	. .	— 2 29.8	+ 35.2	32 18 11.6	+ 6 35 27.6	+ 23.2		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Ty'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corr'd.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Sept. 15	1	Weisse XX, 104		1	V.	132 15 10.2	6.9	10.0	1.5	6.6	4.5	6.62	27.308	+ 0.485	27.770
	2	Nadir 20h. 30m.		4	. .	270 0 9.6	5.0	9.3	1.5	6.9	5.4	6.28	29.738	. .	. .
	3	Juno		5	I-IX.	134 0 8.4	7.4	11.5	2.9	7.8	4.2	7.03	29.893	. .	30.357
	4	θ Piscium		4	I-IV.	123 15 8.8	7.9	11.2	4.5	6.9	3.0	7.05	31.065	. .	31.528
	5	θ Piscium, (Ref.)		3	VII-IX.	236 45 9.0	4.6	12.4	5.8	7.8	6.8	7.73	28.473	. .	28.934
	6	γ Cephei		3	IV-V.	52 5 6.3	4.4	10.9	5.0	6.3	4.5	6.23	36.773	. .	37.227
	7	Neptune		3	I-V.	126 30 8.2	5.9	7.9	0.8	4.3	1.0	4.68	27.280	. .	27.741
	8	Anon. 0h. 38m. 1s.		3	V-IX.	126 25 8.1	6.9	9.1	1.1	5.2	1.2	5.27	29.955	. .	30.416
	9	Venus S. L.		4	I,II,VIII,IX.	112 45 8.6	10.1	11.1	7.5	6.0	2.7	7.67	32.294	. .	32.765
	10	Venus N. L.		3	IV-VI.	" " "	"	"	"	"	"	"	32.836	. .	33.329
	11	Mercury		5	I-IX.	121 25 8.5	10.0	10.6	7.0	6.0	1.6	7.26	29.121	. .	29.603
16	12	Sun S. L.		4	I-IV.	126 40 9.2	11.0	9.9	5.4	7.1	3.2	7.63	27.308	. .	27.777
	13	Sun N. L.		4	VI-IX.	126 10 10.2	11.8	10.9	7.0	8.0	4.1	8.67	30.824	. .	31.323
	14	Weisse XXI, 623		3	III-VII.	137 40 10.2	11.2	12.6	8.1	7.3	3.6	8.83	28.246	. .	28.732
	15	Weisse XXI, 739		3	III-VII.	143 30 10.8	10.9	13.3	9.8	7.4	4.0	9.37	26.217	. .	26.705
	16	Weisse XXI, 1087		2	III, VII.	140 50 8.0	9.0	11.9	7.9	5.5	2.9	7.53	25.905	. .	26.393
	17	O. Arg. N. 23385	8.0	4	I-IV.	75 55 7.8	10.6	15.0	12.0	10.4	5.4	10.20	29.150	. .	29.606
	18	O. Arg. N. 23452	7.0	4	VI-IX.	76 15 8.1	11.1	15.0	12.1	10.5	5.9	10.45	30.850	. .	31.300
	19	Anon. 22h. 30m. 57s.	8.7	3	III-VII.	156 25 8.0	9.0	13.0	8.1	5.2	1.1	7.40	29.218	. .	29.706
	20	O. Arg. S 22373	9.0	2	IV, VI.	155 0 7.9	8.3	11.9	7.4	4.8	0.7	6.83	27.610	. .	28.097
	21	Lalande 45028		4	I,III,VII,IX.	133 30 8.0	9.9	11.4	8.3	5.8	3.7	7.85	36.998	. .	37.485
	22	Juno		4	I,III,V,VIII.	134 15 8.0	11.0	12.0	8.3	6.3	3.9	8.25	34.888	. .	35.373
	23	Radcliffe 6067		3	IV-VI.	74 35 7.7	11.4	15.9	13.2	10.1	6.7	10.83	34.031	. .	34.519
	24	Radcliffe 6081	8.0	4	VI-IX.	74 45 8.0	12.0	15.0	12.8	10.1	6.1	10.67	27.656	. .	28.105
	25	Nadir 23h. 50m.		4	. .	270 0 8.3	10.3	12.3	9.2	7.8	4.0	8.65	29.789	. .	. .
	26	4 Draconis, S. P.		5	. .	27 15 7.9	12.0	16.0	13.9	7.7	3.6	10.18	25.353	. .	25.942
	27	Neptune		2	I, V.	126 30 8.3	11.0	12.2	8.8	6.0	2.0	8.05	26.229	. .	26.715
	28	Anon. 0h. 38m. 1s.		1	IX.	126 25 7.7	10.7	11.7	8.1	5.3	1.9	7.57	30.094	. .	30.579
	29	O. Arg. S. 492		3	I-V.	147 40 8.0	9.3	13.2	8.4	4.0	1.6	7.42	37.683	. .	38.177
	30	O. Arg. S. 498		1	VIII.	" " "	"	"	"	"	"	"	34.787	. .	35.273
19	31	Sun N. L.		4	I-IV.	127 20 6.8	10.0	9.8	8.7	5.1	1.4	6.97	31.335	. .	31.804
	32	Sun S. L.		3	VII-IX.	127 50 7.3	10.1	9.5	7.1	5.3	1.0	6.72	27.609	. .	28.109
	33	Weisse XXI, 506		3	III-VII.	138 10 8.0	11.8	12.3	9.9	5.2	0.9	8.02	42.034	. .	42.521
	34	Weisse XXI, 543		3	V-IX.	" " "	"	"	"	"	"	"	25.490	. .	25.976
	35	O. Arg. S. 21480		3	III-VII.	144 5 8.0	10.6	12.0	10.0	5.1	0.9	7.77	28.744	. .	29.232
	36	Anon. 21h. 43m. 15s.		3	II-VIII.	126 50 8.1	10.0	11.7	8.7	5.0	1.1	7.43	32.461	. .	32.945
	37	Weisse XXI, 1106		5	I-IX.	141 30 7.9	10.0	13.9	11.2	5.1	1.3	8.23	32.814	. .	33.305
	38	Weisse XXII, 113		5	I-IX.	127 55 7.8	10.0	10.8	8.8	4.1	1.0	7.08	27.951	. .	28.436
	39	Nadir 22h. 20m.		5	. .	270 0 7.1	11.3	13.0	11.3	8.1	2.9	8.95	29.803	. .	. .
	40	O. Arg. N. 24533		5	III-VII.	75 15 8.3	12.9	17.4	5.7	10.1	6.2	10.10	34.635	. .	35.110
	41	Juno		5	I-IX.	134 50 7.6	10.9	11.7	9.6	4.2	1.4	7.57	30.900	. .	31.388
	42	B. A. C. 8184		3	III-VII.	134 10 7.7	10.2	12.4	9.7	4.1	. .	7.60	32.988	. .	33.474
	43	Lacaille 9605		5	I-IX.	157 30 9.1	10.9	15.0	12.9	5.5	1.1	9.08	35.434	. .	35.933
	44	Weisse XXIII, 1099		4	VI-IX.	134 35 9.3	13.0	14.4	12.5	7.0	3.6	9.97	34.835	. .	35.319
	45	Weisse O, 302		3	III-VII.	122 0 10.0	12.3	15.1	13.1	6.7	3.1	10.05	37.672	. .	38.156
	46	B. A. C. 138		5	I-IX.	134 10 10.2	14.1	16.3	13.4	8.2	4.8	11.17	30.311	. .	30.798
	47	Neptune		3	III-VII.	126 35 10.2	13.0	15.0	12.0	7.2	3.7	10.18	32.157	. .	32.642
	48	Anon. 0h. 38m. 1s.		1	IX.	126 25 12.4	14.6	17.0	14.0	8.7	4.9	11.93	30.282	. .	30.760
	49	B. A. C. 291		3	V-IX.	134 25 7.4	10.6	12.2	10.6	5.1	0.8	7.78	28.165	. .	28.652
	50	Venus, centre		3	III-VII.	114 0 10.9	15.8	17.3	15.3	10.5	4.4	12.37	34.707	. .	35.189
	51	Mercury, S. L.		5	I-IX.	120 49 65.7	69.0	70.5	66.6	65.0	58.2	65.83	29.687	. .	30.168
20	52	Sun S. L.		4	I-IV.	128 14 65.9	67.9	68.5	64.6	64.7	57.5	64.85	30.817	. .	31.297
	53	Sun N. L.		4	VI-IX.	127 44 67.2	68.1	69.9	65.5	65.5	59.0	65.87	34.419	. .	34.919
	54	23 Aquilæ		1	VII.	128 0 8.1	7.0	8.3	3.0	5.2	0.9	5.42	25.849	. .	26.339
	55	Weisse XIX, 341	7.3	1	VII.	133 50 8.6	7.4	9.9	4.2	6.9	3.5	6.75	26.322	. .	26.806
	56	Venus S. L.		4	I,II,VIII,IX.	114 15 8.9	14.0	13.1	9.7	10.2	5.0	10.15	25.568	+ 0.498	26.066
	57	Venus N. L.		3	IV-VI.	" " "	"	"	"	"	"	"	26.084	. .	26.581
	58	Mercury		5	I-IX.	120 55 9.3	12.3	10.2	9.0	7.1	4.2	8.68	34.834	. .	35.322
21	59	Sun N. L.		4	I-IV.	128 5 8.0	11.0	8.7	6.0	7.9	4.8	7.73	28.078	. .	28.561
	60	Sun S. L.		4	VI-IX.	128 35 8.2	10.2	8.0	5.1	7.8	4.3	7.27	24.305	. .	24.818
	61	Venus, mean of limbs.		5	V-IX.	114 40 8.0	12.7	12.3	8.2	9.1	6.8	9.52	35.263	. .	35.766
	62	Mercury		5	I-IX.	121 0 8.0	11.0	8.9	6.3	8.9	4.9	8.00	31.295	. .	31.789
22	63	Sun S. L.		4	I-IV.	129 0 8.3	9.1	6.2	3.0	8.2	5.9	6.78	27.380	+ 0.512	27.877
	64	Sun N. L.		4	VI-IX.	128 30 7.7	9.0	7.0	3.9	7.8	5.7	6.85	31.044	. .	31.571

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.210	80.2	75.7	+ 1 9.9	+ 50.6	42 17 7.1	— 3 23 27.9	+ 29.4	N.	
2										
3	30.236	76.0	70.7	— 11.2	54.3	44 0 50.1	— 5 7 10.9			
4	- -	- -	- -	— 47.9	+ 36.9	33 14 56.0	+ 5 38 43.2	72.6		
5	- -	- -	- -	+ 33.4	— 36.9	33 14 55.8	5 38 43.5	72.6		
6	- -	- -	- -	— 3 46.5	— 44.0	322 0 35.7	76 53 3.5	80.3		
7	- -	- -	- -	+ 1 10.8	+ 41.8	36 31 57.2	2 21 42.0			
8	30.260	75.0	67.5	— 13.0	41.8	36 25 34.0	2 28 5.2	75.6		
9	- -	- -	- -	1 26.8	20.7	22 44 1.5 }			D.	} Blurred and unsteady. Sun shone through east window on Mic. D and part of circle. N. L. cor. for def. illumination = — 0″.24.
10	30.357	73.0	74.4	— 1 44.1	20.5	22 43 44.0 }	16 9 46.5			
11	30.364	76.5	77.0	+ 12.4	27.4	31 25 47.0	7 27 52.2			Cor. for defective illumination = — 1″.07.
12	- -	- -	- -	+ 1 9.8	36.4	36 41 53.8 }				
13	30.352	78.0	78.5	— 41.5	35.7	36 10 2.8 }	+ 2 27 40.9			
14	- -	- -	- -	+ 39.8	1 2.6	47 41 51.2	— 8 48 12.0	54.0		
15	30.278	70.0	64.6	1 43.3	1 17.1	53 33 9.7	14 39 30.5	56.2		
16	- -	- -	- -	1 53.1	+ 1 10.1	50 53 10.7	— 11 59 31.5	59.1		
17	- -	- -	- -	+ 12.3	— 14.4	345 55 8.1	+ 52 58 31.1	57.4		
18	- -	- -	- -	— 40.7	— 14.0	346 14 15.7	+ 52 39 23.5	57.8		
19	30.274	68.5	61.9	+ 9.2	+ 2 10.7	66 27 27.3	— 27 33 48.1	69.2		
20	- -	- -	- -	+ 59.6	2 7.3	65 53 13.7	26 59 34.5	69.9		
21	- -	- -	- -	— 3 54.6	54.3	43 27 7.5	4 33 28.3	69.8		
22	- -	- -	- -	2 48.4	+ 55.8	44 13 15.6	— 5 19 36.4			
23	- -	- -	- -	— 2 21.4	— 15.9	341 32 33.5	+ 54 21 5.7	74.6		
24	- -	- -	62.0	+ 59.4	15.6	344 45 54.4	54 7 44.8	75.0		
25										
26	30.264	68.2	60.8	2 7.2	— 1 50.9	297 15 26.4	78 21 47.2	87.6		At intervals of 30s. from 0h. 7m. 30s. till 9m. 30s.
27	- -	- -	- -	+ 1 43.0	+ 42.4	36 32 33.4	2 21 5.8			
28	- -	- -	- -	— 17.9	42.4	36 25 32.0	+ 2 28 7.2	75.5		
29	- -	- -	- -	4 16.3	1 30.2	57 37 21.3	— 18 43 42.1	73.6		
30	30.268	68.8	61.3	2 45.4	1 30.3	57 38 52.3	— 18 45 13.1	73.5		
31	- -	- -	- -	— 56.5	38.4	37 19 48.8 }				
32	30.276	66.2	63.6	+ 59.2	39.2	37 51 45.1 }	+ 1 17 52.2			
33	- -	- -	- -	— 6 32.4	1 4.7	48 4 40.3	— 9 11 1.1	53.1		
34	- -	- -	- -	+ 2 6.1	1 5.0	48 13 19.1	9 19 39.9	53.5		
35	- -	- -	- -	+ 24.1	1 20.2	54 6 52.0	— 15 13 12.8	55.5		
36	30.294	62.0	55.6	— 1 32.3	43.5	36 49 18.6	+ 2 4 20.6	55.9		
37	30.296	61.5	55.4	— 1 43.6	1 13.0	51 29 37.6	— 12 35 58.4	59.5		
38	- -	- -	- -	+ 49.0	+ 45.3	37 56 41.3	+ 0 56 57.9	61.3		Whole rev. not recorded. See Aug. 29.
39										
40	- -	- -	- -	— 2 40.2	— 15.4	345 12 14.5	+ 53 41 24.7	65.4		
41	- -	- -	- -	43.5	+ 57.9	44 50 21.9	— 5 56 42.7			
42	30.310	60.7	54.2	1 48.9	56.5	44 9 15.2	5 15 36.0	72.9		Unsteady. Mic. F forgotten. — 2″.40 added to mean of A, B, C, D.
43	- -	- -	- -	3 5.9	2 19.7	67 29 22.8	28 35 43.6	75.4		
44	- -	- -	- -	2 15.4	57.5	44 33 52.0	— 5 40 12.8	74.8		Whole number rev. recorded, 34.
45	- -	- -	- -	4 15.6	36.5	31 56 30.9	+ 6 57 8.3	75.8		Mic. C recorded 5″.01.
46	- -	- -	- -	25.0	56.8	44 10 42.9	— 5 17 3.7	75.2		
47	- -	- -	- -	1 22.8	43.3	36 34 30.6	+ 2 19 8.6			Whole rev. not recorded.
48	30.311	59.2	52.0	— 23.8	43.2	36 25 31.3	+ 2 28 7.9	75.4		
49	- -	- -	- -	+ 42.2	57.5	44 26 47.4	— 5 33 8.2	74.0		
50	30.383	60.5	64.0	— 2 42.6	22.5	23 57 52.2	+ 14 55 47.0		N.	Cor. for defective illumination = — 0″.13.
51	30.380	63.5	67.6	5.2	25.2	30 50 25.8	8 3 13.4			
52	- -	- -	- -	40.3	39.5	38 15 4.0 }				
53	30.371	65.7	68.4	— 2 34.2	38.7	37 43 10.3 }	0 54 32.0			
54	- -	- -	- -	+ 1 55.0	44.7	38 2 45.1	+ 0 50 54.1	9.6		
55	30.290	68.0	64.2	1 40.1	54.9	43 52 41.7	— 4 59 2.5	12.7		
56	- -	- -	- -	2 3.6	22.6	24 17 36.3 }			D.	} Unsteady and blurred. Sun had shone several minutes through east window on lower part of circle. N. L. cor. for def. ill. = — 0″.26.
57	30.280	65.2	68.7	+ 1 47.2	22.4	24 17 19.7 }	+ 14 36 11.2			
58	30.276	68.0	73.0	— 2 47.0	27.8	30 52 49.4	8 0 49.8			Cor. for defective illumination = — 1″.02.
59	- -	- -	- -	+ 45.1	38.6	38 6 31.4 }				
60	30.264	70.0	75.2	+ 2 42.4	39.4	38 38 29.0 }	0 31 9.0			
61	30.242	69.5	69.8	— 3 0.7	22.7	24 37 31.5	14 16 7.7			Cor. for defective illumination = — 0″.14.
62	30.240	72.0	78.5	— 56.1	27.7	30 59 39.6	7 53 59.6			Cor. for defective illumination = — 1″.00.
63	- -	- -	- -	+ 1 6.5	39.3	39 1 52.5 }				
64	30.235	74.3	82.2	— 49.2	+ 38.5	38 29 56.1 }	+ 0 7 44.9			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Transit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrd.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Sept. 23	1	Sun N. L.		4	I–IV.	128 55 9.7	11.1	10.0	5.0	9.0	6.2	8.50	34.284	+ 0.512	34.781
	2	Sun S. L.		4	VI–IX.	129 25 9.7	11.5	10.7	5.7	10.1	6.4	9.02	30.574	. .	31.101
	3	Nadir 15h. 50m.		3		. .							29.736	. .	. .
	4	O. Arg. S. 21480	8.5	5	I–IX.	144 5 9.0	11.1	11.3	5.9	8.0	3.8	8.02	28.698	. .	29.157
	5	Weisse XXI, 739	8.0	5	I–IX.	143 30 9.0	10.0	11.9	6.0	8.2	3.0	8.02	26.095	. .	26.614
	6	42 Capricorni	6.0	5	III–VII.	" " "	"	"	"	"	"	"	28.131	. .	28.645
	7	Weisse XXII, 113		3	III–VII.	127 55 8.8	9.8	10.5	4.8	7.1	3.1	7.35	27.866	. .	28.376
	8	Juno		5	I–IX.	135 40 8.9	11.3	12.0	6.4	8.8	4.1	8.58	33.975	. .	34.491
	9	B. A. C. 8184		5	I–IX.	134 10 9.0	12.0	12.0	7.4	8.9	5.8	9.17	32.916	. .	33.430
	10	Weisse XXIII, 936		1	VII.	134 40 9.1	13.0	11.1	8.4	9.1	5.4	9.35	29.679	. .	30.192
	11	Schjellerup 9921		1	IX.	125 30 8.9	12.8	13.1	8.8	9.0	5.9	9.75	26.030	. .	26.534
	12	Lalande 130		1	V.	123 5 8.9	11.8	12.8	9.0	8.0	5.0	9.25	33.884	. .	34.396
	13	Weisse O, 302		5	I–IX.	122 0 9.0	11.2	12.0	8.4	7.4	4.6	8.77	37.525	. .	38.034
	14	Neptune		3	III–VII.	126 35 9.2	11.8	12.4	7.8	8.1	4.8	9.02	27.013	. .	27.525
	15	Anon. 0h. 38m. 1s.		2	VII, IX.	126 25 9.0	11.3	11.6	7.7	8.5	4.3	8.73	30.018	. .	30.535
	16	Weisse O, 845		3	III–VII.	133 20 9.9	12.7	12.0	9.3	9.3	7.0	10.03	28.718	. .	29.231
25	17	Venus, mean of limbs.		5	I–IX.	116 0 10.2	14.0	14.0	9.9	9.0	5.7	10.47	27.295	. .	27.801
26	18	Sun S. L.		4	I–IV.	130 35 10.7	12.6	11.5	8.0	8.3	4.1	9.20	30.192	. .	30.699
	19	Sun N. L.		4	VI–IX.	130 5 10.9	13.0	11.8	8.4	9.0	4.8	9.65	33.982	. .	34.510
	20	B. A. C. 7490		5	I–IX.	149 35 11.0	12.0	14.7	10.9	8.1	3.0	9.95	34.208	. .	34.730
	21	Anon. 21h. 41m. 22s.		3	III–VII.	127 15 11.3	12.5	14.0	11.3	9.9	5.2	10.70	34.793	. .	35.305
	22	Weisse XXI, 1087		1	V.	140 50 12.0	13.0	15.4	11.8	9.6	5.2	11.17	26.064	. .	26.576
	23	Weisse XXI, 1106		2	VIII, IX.	141 30 12.2	13.0	17.0	13.1	10.2	5.7	11.87	32.887	. .	33.403
	24	Weisse XXII, 153		5	I–IX.	127 35 8.9	10.7	11.5	8.3	6.9	2.2	8.04	28.249	. .	28.769
	25	Nadir 22h. 30m.		5		270 0 9.0	12.0	13.0	10.1	9.9	4.9	9.82	29.824	. .	. .
	26	Juno		5	I–IX.	136 15 9.0	13.0	12.4	9.9	9.1	4.5	9.65	33.993	. .	34.504
	27	Weisse XXIII, 895		5	I–IX.	135 20 9.0	13.5	14.0	10.6	10.3	5.0	10.30	33.701	. .	34.216
	28	α Andromedæ, (Ref.)		2	V, VI.	259 25 9.0	9.9	13.9	12.4	9.8	6.0	10.17	24.764	. .	25.277
	29	Neptune		3	III–VII.	126 40 9.0	11.9	12.0	8.9	8.0	3.0	8.80	32.882	. .	33.394
	30	Anon. 0h. 38m. 1s.		3	VI, VIII, IX.	126 25 9.7	12.5	13.2	10.0	8.3	3.0	9.45	30.185	. .	30.692
	31	Weisse O, 845		3	V–IX.	133 20 10.1	14.1	14.0	12.3	9.9	5.9	11.05	28.876	. .	29.387
	32	Weisse O, 1041		1	V.	130 15 9.9	13.8	12.9	11.1	8.9	3.8	10.07	18.910	. .	19.422
	33	Weisse O, 1054		1	IX.	" " "	"	"	"	"	"	"	36.980	. .	37.495
	34	Polaris		5		40 20 10.4	14.3	18.0	15.7	10.9	7.3	12.77	31.420	. .	31.947
	35	Venus, mean of limbs.		5	I–IX.	116 25 10.4	14.1	14.0	12.2	8.1	4.9	10.62	32.949	. .	33.455
	36	Mercury		5	I–IX.	122 35 11.0	14.2	14.8	12.8	8.9	5.3	11.17	33.277	. .	33.796
27	37	Sun N. L.		4	I–IV.	130 30 8.3	11.1	9.5	7.7	6.0	1.9	7.42	36.929	. .	37.437
	38	Sun S. L.		4	VI–IX.	131 0 9.0	12.0	10.0	7.1	6.1	2.8	7.83	33.184	. .	33.712
	39	Moon N. L.		4	I–IV.	147 50 8.9	9.1	11.0	5.0	6.0	2.0	7.00	32.840	. .	33.386
	40	Moon S. L.		4	VI–IX.	148 20 9.2	10.1	12.0	6.0	7.0	2.0	7.72	31.470	. .	31.955
	41	Nadir 20h. 35m.		4		270 0 9.0	10.0	11.4	7.3	8.9	4.7	8.55	29.751	. .	. .
	42	Weisse XXI, 623		3	III–VII.	137 40 8.3	11.8	10.6	6.7	7.2	1.8	7.73	28.246	. .	28.760
	43	Weisse XXI, 1037		3	III–VII.	126 25 7.7	10.9	10.2	6.0	7.0	1.1	7.15	31.907	. .	32.419
	44	Anon. 21h. 47m. 45s.		1	IX.	125 45 7.7	11.9	11.1	6.6	7.0	2.0	7.72	28.722	. .	29.226
	45	Venus, mean of limbs.		5	I–IX.	116 45 7.5	14.0	13.9	11.9	6.7	1.6	9.27	28.336	. .	28.843
	46	Mercury		5	I–IX.	123 5 6.0	11.0	10.9	8.7	5.7	0.5	7.13	35.067	. .	35.576
28	47	Sun S. L.		4	I–IV.	131 19 66.1	68.5	68.0	64.5	64.1	58.1	64.88	26.646	. .	27.144
	48	Sun N. L.		3	VII–IX.	130 49 66.6	69.3	68.2	65.8	64.4	59.3	65.60	30.389	. .	30.930
	49	Moon S. L.		5	I–IX.	147 9 63.9	64.9	65.9	60.0	62.0	58.0	62.45	30.847	. .	31.367
	50	27 Aquarii		5	I–IX.	126 50 7.7	10.4	10.3	6.1	7.4	2.3	7.37	32.312	. .	32.823
	51	Weisse XXI, 1106		5	I–IX.	141 30 7.8	9.0	11.7	8.0	6.0	1.1	7.27	32.737	. .	33.255
	52	Juno		5	I–IX.	136 35 7.8	12.0	11.8	9.0	8.9	3.0	8.75	28.862	. .	29.377
	53	81 Aquarii		1		" " "	"	"	"	"	"	"	21.437	. .	21.953
	54	Weisse XXII, 1223		3	III–VII.	133 50 7.8	10.7	11.9	8.8	8.0	4.7	8.65	27.004	. .	27.517
	55	Weisse XXII, 1248		3	V–IX.	" " "	"	"	"	"	"	"	33.638	. .	34.150
	56	θ Piscium, (Ref.)		3	III–VII.	236 45 8.0	9.9	15.2	10.1	9.8	5.0	9.67	28.421	. .	28.934
	57	ι Piscium, (Ref.)		3	V, VIII, IX.	236 0 8.0	9.2	15.1	11.0	9.1	5.7	9.68	27.594	. .	28.106
	58	Nadir 23h. 55m.		4		270 0 8.0	10.4	11.9	9.0	8.2	3.1	8.43	29.752	. .	. .
	59	γ Pegasi, (Ref.)		4	III, V, VIII, IX.	245 30 9.0	11.9	15.1	11.3	10.1	7.1	10.75	23.694	. .	24.210
	60	Neptune		3	III–VII.	126 40 9.0	11.8	11.7	8.1	7.9	2.3	8.47	30.302	. .	30.814
	61	Anon. 0h. 38m. 1s.		3	V–IX.	126 25 9.1	12.3	13.1	9.1	9.0	3.0	9.27	30.108	. .	30.617
	62	Venus, mean of limbs.		5	III–VII.	117 10 8.9	14.9	. .	12.1	8.9	3.5	10.02	32.649	. .	33.159
	63	Mercury		5	I–IX.	123 35 8.9	13.2	13.0	10.0	8.9	4.2	9.70	31.855	. .	32.365
29	64	Sun N. L.		4	I–IV.	131 15 8.9	12.4	10.7	8.1	9.0	4.2	8.88	33.662	. .	34.160
	65	Sun S. L.		4	VI–IX.	131 45 8.9	13.0	11.9	10.0	9.9	4.9	9.77	29.894	. .	30.422

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 2 29.8	+ 39.6	38 53 18.3			D.	
2	30.358	74.0	78.0	— 34.5	40.4	39 25 14.9	— 0 15 37.4			
3										
4	30.342	70.7	66.3	+ 26.4	1 18.6	54 6 53.0	15 15 13.8	+ 55.6		
5	. .	. .	. .	1 46.1	1 17.0	53 33 11.1	14 39 31.9	54.6		
6	. .	. .	. .	42.5	1 16.9	53 32 7.4	— 14 38 28.2	55.2		
7	30.342	70.2	65.7	+ 50.8	44.5	37 56 42.6	+ 0 56 56.6	61.2		
8	30.352	69.5	64.3	— 2 20.7	58.5	45 38 46.3	— 6 45 7.1			
9	. .	. .	63.9	1 47.5	55.6	44 9 17.2	5 15 38.0	73.0		
10	. .	. .	. .	— 6.0	56.6	44 40 59.9	— 5 47 20.7	74.6		
11	. .	. .	63.5	+ 1 48.6	40.9	35 32 39.2	+ 3 21 0.0	74.5		Faint and uncertain.
12	. .	. .	. .	— 2 17.8	37.3	33 3 28.7	5 50 10.5	75.3		
13	. .	. .	62.9	— 4 11.8	35.8	31 56 32.7	6 57 6.5			
14	. .	. .	. .	+ 1 17.6	42.5	36 37 9.1	2 16 30.1	75.6		Whole rev. not recorded.
15	30.342	68.0	62.2	— 16.4	42.4	36 25 34.7	+ 2 28 4.5	75.3		
16	. .	. .	. .	+ 24.1	54.2	43 21 28.3	— 4 27 49.1	74.6		
17	30.184	68.0	68.9	+ 1 8.9	24.4	26 1 43.7	+ 12 51 55.5			Cor. for defective illumination = — 0″.14.
18	. .	. .	. .	— 21.6	42.3	40 35 29.9				
19	30.182	71.5	73.8	2 21.3	41.5	40 3 29.8	— 1 25 50.6			Unsteady.
20	30.251	64.7	59.1	2 28.2	1 37.7	59 34 19.4	— 20 40 40.2	57.1		
21	. .	. .	. .	— 2 46.3	43.8	37 13 8.2	+ 1 40 31.0	55.2		
22	. .	. .	. .	+ 1 47.3	1 10.8	50 53 9.2	— 11 59 30.0	59.4		
23	. .	. .	. .	— 1 46.7	1 12.4	51 29 37.5	— 12 35 58.3	59.7		
24	30.256	64.0	58.7	+ 38.9	44.4	37 36 31.3	+ 1 17 7.9	61.3		
25										
26	30.264	64.2	57.8	— 2 21.3	1 0.3	46 13 48.6	— 7 20 9.4			Image quite distinct, but appears to oscillate slowly.
27	30.263	64.0	56.7	— 2 12.1	+ 58.5	45 18 56.7	— 6 25 17.5	74.5		
28	. .	. .	56.1	+ 2 28.0	— 10.8	169 27 27.3	+ 28 21 6.6	75.3		
29	. .	. .	. .	— 1 46.4	+ 43.0	36 39 5.4	2 14 33.8			
30	. .	. .	. .	— 21.7	42.9	36 25 30.6	+ 2 28 8.6	75.1		
31	30.284	64.0	55.3	+ 19.2	54.9	43 21 25.1	— 4 27 45.9	74.5		
32	. .	. .	. .	+ 5 31.5	49.4	40 21 30.9	1 27 51.7	74.1		
33	. .	. .	. .	— 3 54.7	+ 49.1	40 12 4.4	— 1 18 25.2	74.0		[28s.
34	. .	. .	. .	57.9	— 1 8.5	310 18 6.3	+ 88 35 32.9	83.0		At intervals of 30s. from 1h. 17m. 28s. till 19m.
35	30.444	63.5	64.0	1 48.3	+ 25.3	26 23 47.6	12 29 51.6			Cor. for defective illumination = — 0″.15.
36	30.448	66.0	68.1	1 58.7	31.7	32 33 44.1	+ 6 19 55.1			Cor. for defective illumination = — 0″.41.
37	. .	. .	. .	3 52.8	42.7	40 26 57.3				
38	30.444	68.0	71.1	1 56.3	+ 43.6	40 58 55.1	— 1 49 17.0			
39	. .	. .	. .	1 46.4	— 45 49.4	57 2 31.2				Cor. for defective illumination = — 0″.17.
40	30.418	70.0	66.7	— 1 1.3	— 46 3.6	57 33 2.8	18 24 7.8			Very ragged.
41										
42	30.442	65.7	58.9	+ 38.9	+ 1 3.7	47 41 50.3	— 8 48 11.1	54.2		
43	. .	. .	. .	— 1 15.8	42.8	36 24 34.1	+ 2 29 5.1	55.7		
44	30.446	65.0	58.4	+ 24.3	41.8	35 46 13.8	3 7 25.4	56.4		Very faint. Bisection somewhat uncertain.
45	30.440	60.0	63.6	+ 36.3	25.8	26 46 11.3	12 7 27.9			Cor. for defective illumination = — 0″.15.
46	30.426	63.7	66.0	— 2 54.8	32.6	33 2 44.9	+ 5 50 54.3			Cor. for defective illumination = — 0″.35.
47	. .	. .	. .	+ 1 29.5	44.3	41 22 18.6				
48	30.420	65.7	68.6	— 28.8	+ 43.4	40 50 20.2	— 2 12 40.2			
49	30.330	67.3	63.3	42.8	— 61 47.4	56 7 32.2	— 17 13 53.0			Very good.
50	30.316	62.8	57.1	1 28.5	+ 43.4	36 49 22.2	+ 2 4 17.0	54.8		
51	. .	. .	. .	— 1 42.0	72.8	51 29 38.0	— 12 35 58.8	59.7		
52	. .	. .	. .	+ 19.5	61.5	46 36 29.7	7 42 50.5			
53	. .	. .	. .	4 12.0	61.6	46 40 22.3	7 46 43.1	70.2		Taken as it passed out of the field.
54	. .	. .	. .	+ 1 17.8	55.9	43 52 22.3	4 58 43.1	70.3		
55	30.300	61.0	54.9	— 2 10.1	+ 55.8	43 48 54.3	— 4 55 15.1	70.4		
56	. .	. .	. .	+ 33.4	— 38.3	146 45 4.7	+ 5 38 44.0	71.7		Good.
57	30.298	60.9	52.9	59.4	39.4	146 0 29.6	4 54 8.9	72.9		Thermometer and barometer at 23h. 41m.
58										
59	. .	. .	. .	+ 3 1.5	— 26.6	155 32 45.6	14 26 24.9	74.8		Unsteady.
60	. .	. .	. .	— 25.5	+ 43.3	36 40 26.2	2 13 13.0			Whole rev. not recorded.
61	30.294	61.0	53.3	19.4	43.1	36 25 32.9	2 28 6.3	+ 75.0		[defective illumination = — 0″.15.
62	30.276	61.0	65.3	1 39.0	26.0	27 8 57.0	11 44 42.2			0″.97 added to mean of A, B, E, F. Cor. for
63	30.264	64.5	69.7	1 14.1	33.0	33 34 28.6	+ 5 19 10.6			Unsteady. Correction for def. ill. = — 0″.31.
64	. .	. .	. .	2 10.4	43.6	41 13 42.0				
65	30.250	67.0	71.9	— 13.2	+ 44.5	41 45 41.0	— 2 36 2.3			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correct.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Sept. 29	1	Moon S. L.		5	I-IX.	145 0 8.7	9.0	9.5	2.2	8.1	3.2	6.78	34.505	+ 0.512	35.021
	2	Nadir 21h. 10m.		4		270 0 6.3	6.9	7.9	2.4	7.0	2.8	5.55	29.659		
	3	O. Arg. S. 21550		3	III-VII.	149 44 66.8	67.1	69.1	63.1	65.1	59.6	65.13	36.354		36.87
	4	Anon. 21h. 41m. 25s.		3	III-VII.	127 15 3.7	8.9	10.1	3.9	9.0	3.0	6.43	34.752		35.28
	5	Weisse XXI, 1087		5	I-IX.	140 50 8.1	9.0	10.7	4.3	8.0	1.9	7.00	25.895		26.41
Oct. 1	6	Venus, mean of limbs.		3	I-V.	118 20 7.9	12.9	10.5	8.8	6.0	0.8	7.82	31.834		32.36
2	7	7 Piscis Australis		5	III-VII.	162 30 8.5	9.6	13.4	8.5	7.0	2.4	8.23	31.020		31.53
	8	Weisse XXI, 933		5	III-VII.	141 10 8.4	9.9	11.1	8.0	7.4	1.7	7.75	27.960		28.47
	9	Weisse XXI, 1002		3	III-VII.	" " "	"	"	"	"	"	"	37.117		37.62
	10	λ Gruis		3	IV-VI.	169 5 9.0	10.6	15.9	10.1	7.1	2.5	9.20	38.929		39.44
	11	Lacaille 9091		4	VI-IX.	166 5 9.7	12.2	14.0	11.1	8.7	4.0	9.95	28.505		29.02
	12	B. A. C. 7817		4	VI-IX.	153 15 9.1	10.1	13.1	8.2	7.0	3.0	8.42	32.785		33.30
	13	Lacaille 9167		5	III-VII.	164 40 8.6	11.0	14.1	9.9	8.5	3.3	9.23	30.154		30.67
	14	O. Arg. S. 22373		3	III-VII.	155 50 7.9	9.0	10.9	6.2	5.0	0.0	6.50	27.497		28.01
	15	Juno		2	IV, V.	137 20 8.2	12.1	12.0	8.0	8.1	2.0	8.40	32.265		32.77
	16	Moon S. L.		5	I-IX.	133 0 8.3	11.8	12.4	9.2	7.2	3.8	8.78	26.688		27.20
	17	ψ^2 Aquarii		5	I-IX.	138 50 8.4	11.4	12.7	9.8	8.9	2.1	8.88	35.019		35.53
	18	Radcliffe 6067		4	VI-IX.	74 35 8.9	13.1	16.3	13.6	13.0	7.7	12.10	34.187		34.69
	19	Weisse XXIII, 936		1	V.	134 40 8.9	13.5	12.3	10.2	10.0	3.7	9.77	29.580		30.09
	20	Nadir 0h.		4		270 0 8.3	11.3	12.0	10.1	9.8	4.4	9.35	29.788		
	21	B. A. C. 59		4	VI-IX.	166 5 7.4	11.3	13.0	10.1	8.0	2.0	8.63	29.581		30.11
	22	B. A. C. 138		5	I-IX.	134 10 7.1	11.0	11.2	6.9	7.4	2.3	7.65	30.137		30.65
	23	Neptune		3	III-VII.	126 45 6.8	9.6	11.0	6.0	6.2	0.7	6.72	34.789		35.30
	24	Anon. 0h. 38m. 1s.		4	VI-IX.	126 25 7.0	9.8	10.6	6.0	6.9	0.7	6.83	30.043		30.55
	25	Venus, mean of limbs.		5	I-IX.	118 44 66.6	73.1	70.9	69.1	66.0	59.1	67.47	33.510		34.07
	26	Mercury		4	VI-IX.	126 5 9.0	15.7	14.8	11.0	10.0	3.0	10.58	35.053		35.58
5	27	Sun N. L.		2	V, VI.	133 35 8.1	18.3	15.1	14.1	11.2	6.1	12.15	35.046	+ 0.493	35.54
	28	Juno		5	I-IX.	137 50 8.8	16.1	14.9	13.7	9.7	2.2	10.90	31.807		32.30
	29	Weisse XXII, 1068	7.5	1	IX.	" " "	"	"	"	"	"	"	33.243		33.74
	30	Lacaille 9453		4	I-IV.	153 5 8.8	14.3	16.0	14.9	9.5	3.6	11.18	34.226		34.73
	31	O. Arg. S. 22798		4	VI-IX.	" " "	"	"	"	"	"	"	40.930		41.43
	32	B. A. C. 8169		1		128 20 8.3	14.3	12.1	12.8	9.3	2.2	9.83	27.129		27.62
	33	Weisse XXIII, 895		3	V-IX.	135 20 8.2	15.7	14.3	13.5	11.1	4.2	11.17	33.711		34.22
	34	ω Piscium, (Ref.)		2	I, IV.	237 15 8.3		16.9	14.3	12.1	7.1	12.87	31.068		31.58
	35	ω Piscium		2	IX.	122 45 9.0	16.1	15.4	15.8	10.1	4.0	11.73	28.705		29.19
	36	Nadir 0h. 20m.		5		270 0 9.0	16.2	15.0	15.2	12.0	4.9	12.05	29.890		
	37	Neptune		5	I-IX.	126 45 9.1	16.4	15.0	14.1	11.2	3.9	11.62	31.205		31.69
	38	Anon. 0h. 38m. 1s.		3	III-VII.	126 25 9.9	17.0	15.2	14.4	11.7	3.9	12.02	30.252		30.74
	39	Weisse O, 836		3	III-VII.	133 35 10.7	19.0	17.0	16.6	13.7	6.4	13.90	28.310		28.84
	40	ε Piscium, (Ref.)		3	I, III, V, IX.	238 15 10.4	16.0	18.2	17.8	15.5	9.7	14.60	25.928		26.45
	41	Weisse O, 55		3	V-IX.	117 20 9.9	16.0		14.3	10.9	4.0	11.73	32.164		32.65
	42	Weisse O, 201		1	VIII.	116 45 9.9	16.9	16.1	15.0	11.2	5.0	12.35	32.531		33.01
	43	Weisse O, 389		1	V.	128 15 9.4	16.3	14.7	14.0	11.3	3.9	11.60	34.125		34.61
	44	Moon N. L.		5	I-IX.	117 55 8.7	16.6	15.0	14.8	10.2	3.6	11.48	28.762		29.25
	45	Venus, mean of limbs.		5	I-IX.	120 0 9.6	17.1	16.0	14.0	12.0	3.9	12.10	35.187		35.67
	46	Mercury		5	I-IX.	128 10 7.9	15.1	12.7	12.8	10.9	3.1	10.42	32.740		33.23
6	47	Venus, mean of limbs.		5	I-IX.	120 25 7.5	14.8	14.1	12.2	9.0	0.0	9.60	34.553		35.04
	48	Mercury		5	I-IX.	128 55 6.5	15.6	11.0	11.1	10.1	2.0	9.38	35.076		35.56
7	49	Sun S. L.		4	I-IV.	134 50 8.5	17.4	14.0	14.1	12.0	4.0	11.67	29.219		29.69
	50	Sun N. L.		4	VI-IX.	134 20 9.6	18.3	15.0	14.8	14.1	4.9	12.78	33.214		33.72
	51	α Cephei, (Ref.)		4	VI-IX.	293 5 9.9	10.9	15.4	6.4	11.0	3.6	9.53	25.109		25.64
	52	ε Pegasi, (Ref.)		5	I-IX.	240 20 9.5	10.8	13.9	9.9	13.0	6.7	10.63	24.368		24.86
	53	Anon. 21h. 43m. 14s.		1	VI.	126 50 9.7	13.2	13.0	8.0	11.8	3.4	9.85	32.438		32.93
	54	Lacaille 9119		3	III-VII.	168 40 9.1	10.9	14.0	10.5	9.9	2.5	9.48	35.025		35.53
	55	ζ Pegasi, (Ref.)		3	IV, VI, IX.	241 15 9.2	10.6	14.8	10.6	12.3	6.9	10.73	29.825		30.32
	56	Juno		5	I-IX.	138 10 8.2	12.1	11.9	7.7	10.9	2.3	8.85	33.367		33.86
	57	o Cephei, (Ref.)		3	II, III, V.	298 30 8.8	10.4	11.8	3.4	9.2	1.4	7.50	32.155		32.66
	58	o Cephei		2		61 30 9.1	13.0	15.2	11.0	13.5	8.0	11.63	27.708		27.99
	59	γ Cephei, (Ref.)		4	VI-IX.	308 0 9.0	12.1	12.6	4.9	9.9	3.0	8.58	31.985		32.50
	60	Weisse XXIII, 936		1	IX.	134 40 9.3	13.0	12.0	8.3	11.5	4.0	9.68	29.581		30.09
	61	α Andromedæ, (Ref.)		4	I-IV.	259 25 9.0	11.5	13.5	9.9	13.6	7.0	10.75	24.670		25.17
	62	α Andromedæ		3	VII-IX.	100 35 9.0	11.9	12.4	8.0	11.5	5.0	9.63	34.986		35.49
	63	Nadir 0h. 15m.		4		270 0 8.0	11.1	11.9	8.2	11.3	4.6	9.18	29.801		
	64	Neptune		5	I-IX.	126 45 8.6	11.2	11.4	5.9	10.5	2.8	8.40	28.516		29.00

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.160	69.0	64.6	— 2 37.5	— 61 44.7	53 55 44.5	— 15 2 5.3		D.	
2										While preparing to take this observation the lamp very lightly struck the eye-piece.
3	30.144	66.2	60.1	3 35.3	+ 1 37.8	59 43 7.6	— 20 49 28.4	+ 58.5		
4	. .	. .	. .	— 2 45.0	43.5	37 13 4.9	+ 1 40 34.3	55.1		
5	30.150	66.0	60.0	+ 1 52.5	1 10.4	50 53 9.9	— 11 59 30.7	59.5		
6	29.858	63.5	69.5	— 1 13.0	26.7	28 19 21.5	+ 10 34 17.7			Interrupted by clouds. Cor. for defective illumination = — 0″.15.
7	. .	. .	59.5	— 48.2	2 58.2	72 32 18.2	— 33 38 39.0	61.6		
8	. .	. .	. .	+ 47.8	1 10.6	51 12 6.1	12 18 26.9	58.1		
9	29.875	64.5	. .	— 3 59.2	1 10.5	51 7 19.0	12 13 39.8	58.8		
10	. .	. .	59.2	— 4 56.0	4 44.5	79 4 57.7	40 11 18.5	69.1		
11	29.893	63.7	59.0	+ 30.2	3 45.9	76 9 26.0	37 15 46.8	70.5		Barometer recorded 29.983.
12	. .	. .	. .	— 1 43.7	1 52.5	63 15 17.2	24 21 38.0	68.7		
13	. .	. .	. .	— 21.0	3 24.8	74 43 13.0	35 49 33.8	72.3		
14	. .	. .	. .	+ 1 2.2	2 6.6	65 53 15.3	26 59 36.1	71.9		
15	. .	. .	. .	— 1 26.9	+ 1 1.9	47 19 43.4	8 26 4.2			
16	. .	. .	. .	+ 1 27.7	— 56 53.8	42 4 42.6	3 11 3.4			Very good.
17	29.894	62.5	57.0	— 2 53.5	+ 1 5.3	48 48 20.6	— 9 54 41.4	72.5		
18	. .	. .	. .	2 26.2	— 15.8	344 32 30.1	+ 54 21 9.1	69.8		
19	. .	. .	. .	2.9	+ 56.6	44 41 3.4	— 5 47 24.2	74.6		Faint.
20	. .	. .	. .							
21	29.894	62.2	55.9	3.5	3 47.2	76 8 52.3	37 15 13.1	78.2		
22	. .	. .	. .	20.4	55.7	44 10 42.9	-- 5 17 3.7	75.3		
23	. .	. .	. .	2 46.1	42.6	36 43 3.2	+ 2 10 36.0			Whole rev. recorded, 35.
24	29.893	62.0	55.1	17.4	42.4	36 25 31.8	2 28 7.4	74.9		
25	29.932	58.7	59.0	2 5.9	27.9	28 43 29.4	10 10 9.8			Very good. Cor. for def. ill. = — 0″.16.
26	29.924	61.0	61.1	2 54.4	37.1	36 2 53.2	+ 2 50 46.0			Cor. for defective illumination = — 0″.17.
27	29.960	56.0	57.6	2 53.7	16 51.4	43 49 9.8	— 4 55 30.6			Unsteady. Poor observation.
28	30.102	52.5	47.0	1 12.2	1 4.8	47 50 3.5	8 56 24.3			
29	. .	. .	. .	1 57.3	1 4.8	47 49 18.4	8 55 39.2	70.5		
30	. .	. .	. .	2 28.2	1 55.2	63 4 38.1	24 10 58.9	75.7		
31	. .	. .	. .	— 5 58.4	1 54.9	63 1 7.6	— 24 7 28.4	75.7		
32	. .	. .	. .	+ 1 14.6	46.6	38 22 11.0	+ 0 31 28.2	72.1		At 23h. 21m. 12s.
33	. .	. .	. .	— 2 11.8	+ 59.4	45 18 58.7	— 6 25 19.5	74.8		[rev. recorded, 30.
34	. .	. .	. .	49.6	— 37.9	147 13 45.3	+ 6 7 24.6	74.0		0″.27 added to mean of C, D, E, F. Whole
35	30.110	51.6	46.6	+ 25.3	+ 37.9	32 46 14.9	6 7 24.3	74.0		One reading taken just as it passed out of the field.
36										
37	. .	. .	. .	— 53.2	43.8	36 45 2.2	2 8 37.0			
38	30.119	52.0	46.0	— 23.4	43.5	36 25 32.1	+ 2 28 7.1	75.0		
39	. .	. .	. .	+ 37.5	+ 56.1	43 36 47.5	— 4 43 8.3	74.7		
40	. .	. .	. .	+ 1 52.0	— 36.5	148 16 30.1	+ 7 10 9.4	74.4		
41	. .	. .	. .	— 1 23.2	+ 30.5	27 19 19.0	11 34 20.2	74.1		1″.53 added to mean of A, B, E, F.
42	. .	. .	. .	1 34.6	29.7	26 44 7.4	12 9 31.8	73.6		Very faint. Bisection difficult.
43	. .	. .	. .	— 2 24.7	+ 46.5	38 13 33.4	0 40 5.8	72.3		Very faint. Bisection difficult.
44	30.120	51.7	45.0	+ 23.5	— 11 14.3	27 44 20.6	11 9 18.6			
45	30.228	53.1	55.8	— 2 57.9	+ 30.0	29 57 44.2	8 55 55.0			Cor. for defective illumination = — 0″.16.
46	30.236	57.0	59.8	1 41.3	41.0	38 9 10.1	0 44 29.1			Rather unsteady, but I consider the obs. good. Cor. for defective illumination = — 0″.10.
47	30.255	50.1	55.6	2 38.0	30.6	30 23 2.2	8 30 37.0			Cor. for defective illumination = — 0″.16.
48	30.234	59.0	63.0	— 2 54.5	41.9	38 52 56.7	+ 0 0 42.5			Unsteady.
49	. .	. .	. .	+ 9.5	50.7	44 51 11.8 }				
50	30.222	55.0	64.3	— 1 56.8	49.7	44 19 5.6 }	— 5 41 29.5			
51	. .	. .	. .	+ 2 16.4	+ 24.8	203 7 50.7	+ 62 1 30.0	39.1		
52	. .	. .	. .	+ 2 40.9	— 33.0	150 22 18.5	9 15 57.8	52.3		Micrometer C recorded by amanuensis, 39.
53	. .	. .	. .	— 1 31.9	+ 43.4	36 49 21.3	+ 2 4 17.9	55.4		
54	30.112	58.5	54.2	2 53.2	+ 4 40.3	78 41 56.5	— 39 48 17.3	72.9		
55	. .	. .	. .	10.1	— 31.8	151 14 28.8	+ 10 8 8.1	64.3		
56	. .	. .	. .	2 1.1	+ 1 4.6	48 9 12.3	— 9 15 33.1			
57	. .	. .	. .	— 1 24.1	+ 31.4	208 29 14.8	+ 67 22 53.1	68.2		Whole rev. not recorded.
58	. .	. .	. .	+ 1 4.3	— 31.4	331 30 44.5	67 22 54.7			At 23h. 16m. 14s. and 52s. Whole rev. recorded, 37.
59	. .	. .	. .	— 1 21.0	+ 45.2	217 59 32.7	+ 76 53 12.0	72.4		Whole rev. recorded, 35.
60	30.210	58.5	56.7	— 2.5	+ 57.1	44 41 4.2	— 5 47 25.0	74.9		
61	. .	. .	. .	+ 2 31.2	— 10.8	169 27 31.1	+ 28 21 10.4	73.4		
62	. .	. .	. .	— 2 51.2	+ 10.8	10 32 29.2	28 21 10.0	+ 73.4		
63										
64	. .	. .	. .	+ 31.1	+ 42.7	36 46 22.2	+ 2 7 17.0			Circle reading recorded 125° 45′.

DATE.	Number.		OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.			B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrc'd.
1865.							°	′	″	″	″	″	″	″	″	r.	r.	r.
Oct. 7	1		Anon. 0h. 38m. 1s.	..	5	III–VII.	126	25	8.9	11.9	11.7	6.0	10.2	2.7	8.57	30.070	+ 0.493	30.563
	2		Weisse O, 836	..	5	I–IX.	133	35	9.1	13.5	12.2	8.3	11.9	5.0	10.00	28.167	..	28.662
	3		B. A. C. 291	..	5	I–IX.	134	25	9.9	13.9	13.5	8.9	12.5	4.9	8.93	28.180	..	28.675
	4		Polaris, (Ref.)	..	6	1–5.	319	40	8.4	12.0	14.0	5.1	8.7	3.0	8.53	28.196	..	28.693
	5		Polaris	..	5	..	40	20	9.9	15.4	16.9	14.4	14.9	9.1	13.43	31.597	..	32.021
9	6		Venus, mean of limbs.	..	5	I–IX.	121	40	10.0	13.1	13.2	9.1	10.2	5.3	10.15	29.770	+ 0.500	30.267
	7		Mercury	..	3	V–IX.	131	5	9.2	11.1	10.3	4.7	8.0	3.9	7.87	27.434	..	27.982
10	8		Sun S. L.	..	2	VIII, IX.	136	0	9.1	12.2	10.1	6.3	11.0	6.0	9.12	31.908	..	32.457
	9	α	Cephei, (Ref.)	..	3	1, 5, VI.	293	5	10.5	9.8	13.0	3.0	10.9	5.0	8.70	25.129	..	25.632
	10	α	Cephei	..	3	..	66	55	10.0	11.0	15.4	8.7	14.0	10.1	11.53	34.701	..	35.053
	11	ϵ	Pegasi, (Ref.)	..	2	III, VI.	240	20	10.2	7.1	13.0	6.0	10.9	9.0	9.37	24.373	..	24.874
	12	ϵ	Pegasi	..	1	..	119	40	11.9	10.0	10.7	4.7	9.1	6.0	8.73	35.198	..	35.684
	13		Weisse XXI, 1037	..	5	III–VII.	126	25	11.3	12.0	..	5.2	11.0	7.0	10.18	31.957	..	32.457
	14		Weisse XXII, 1085	..	1	IX.	136	0	12.0	13.1	14.1	7.0	12.7	7.2	11.02	27.653	..	28.159
	15	θ	Aquarii, (Ref.)	..	3	II, III, V.	222	40	12.0	9.1	14.9	10.0	9.3	8.3	10.60	28.800	..	29.296
	16		Lacaille 9919	..	5	III–VII.	168	40	8.9	8.6	12.6	6.6	7.1	3.2	7.83	34.847	..	35.353
	17		Nadir 22h. 35m.	..	4	..	270	0	8.0	9.1	10.0	4.9	9.1	6.0	7.85	29.750	..	..
	18		Juno	..	5	I–IX.	138	35	7.7	7.0	8.7	2.0	6.8	1.2	5.57	29.589	..	30.093
	19	ψ^2	Aquarii	..	3	VI, VII, IX.	138	50	7.9	8.9	9.7	3.4	7.7	1.8	6.57	34.977	..	35.482
	20		Weisse XXIII, 386	..	3	I–IX.	127	55	7.6	7.2	8.9	0.8	6.7	2.1	5.55	29.694	..	30.194
	21		B. A. C. 8184	..	3	III–VII.	134	10	7.4	8.6	9.8	2.3	7.2	3.0	6.38	32.914	..	33.415
	22		Weisse XXIII, 895	..	3	III–VII.	135	20	7.2	9.0	9.9	2.8	8.3	3.7	6.82	33.492	..	33.993
	23	α	Andromedæ, (Ref.)	..	4	I–IV.	259	25	8.0	6.7	10.0	5.4	8.0	6.0	7.35	24.573	..	25.066
	24	α	Andromedæ	..	2	VIII, IX.	100	35	7.8	8.8	10.5	4.9	8.0	5.0	7.50	34.930	..	35.409
	25		B. A. C. 59	..	5	III–VII.	166	5	8.7	10.2	12.0	7.1	8.2	4.0	8.37	29.469	..	29.975
	26		Lacaille 122	..	5	III–VII.	155	40	8.7	9.7	12.0	5.8	8.3	3.0	7.92	27.092	..	27.596
	27		Weisse O, 845	..	5	I–IX.	133	20	8.4	10.0	10.2	5.0	7.8	4.7	7.68	28.724	..	29.226
	28		Weisse O, 935	..	5	I–IX.	134	15	8.3	10.3	11.0	5.5	8.1	4.9	8.02	30.158	..	30.660
	29		Weisse I, 22	..	3	III–VII.	118	25	8.3	8.1	7.9	3.9	5.6	3.8	6.27	25.760	..	26.256
	30		Weisse I, 66	..	3	III–VII.	117	55	9.3	10.5	10.1	5.9	7.9	4.9	8.10	30.084	..	30.592
	31		Weisse I, 201	..	1	V.	116	45	9.3	10.9	11.7	5.7	8.7	5.0	8.55	32.423	..	32.923
	32		Polaris, (Ref.)	..	5	..	319	40	8.0	9.0	12.4	2.8	6.7	2.9	6.97	27.775	..	28.580
	33		Polaris	..	5	..	40	20	8.0	11.1	14.2	11.8	9.9	7.9	10.48	32.346	..	31.977
	34		Venus, mean of limbs.	..	5	I–IX.	122	5	7.7	10.9	12.0	7.4	6.8	3.0	7.97	27.161	..	27.658
	35		Mercury	..	3	III–VII.	131	55	7.4	10.9	11.5	6.2	5.5	1.3	7.13	36.815	..	37.317
11	36		Sun N. L.	..	4	I–IV.	135	50	7.8	11.3	11.1	6.0	9.0	3.1	8.05	30.860	..	31.345
	37		Sun S. L.	..	4	VI–IX.	136	20	9.0	14.0	12.0	8.0	10.6	5.1	9.78	26.840	..	27.361
	38		Venus, mean of limbs.	..	5	I–IX.	122	35	9.0	11.7	13.0	8.0	9.0	4.9	9.27	33.773	..	34.270
	39		Mercury	..	5	I–IX.	132	35	9.0	10.2	11.0	6.0	8.0	3.9	8.02	27.139	..	27.641
12	40		Sun S. L.	..	2	V, VI.	136	45	9.0	11.6	11.0	5.9	10.0	4.6	8.68	31.466	..	31.970
	41		Sun N. L.	..	2	VIII, IX.	136	15	8.9	11.7	11.0	5.8	10.7	4.9	8.82	35.414	..	35.942
	42		Anon. 21h. 40m. 12s.	..	3	III–VII.	130	10	10.3	12.1	10.0	9.3	7.7	4.3	8.95	32.725	..	33.225
	43		Weisse XXI, 1085	..	5	I–IX.	136	0	9.1	13.0	12.2	9.8	9.4	3.9	9.57	27.530	..	28.033
	44		Lacaille 9144	..	5	I–IX.	158	10	9.0	12.7	13.0	10.3	7.0	2.1	9.02	26.305	..	26.819
	45	ϵ	Piscis Australis	..	3	III–VII.	156	35	10.6	14.0	14.0	13.1	9.1	3.8	10.77	28.179	..	28.684
	46		Lacaille 9261	..	5	I–IX.	157	10	10.8	13.9	15.2	14.0	9.3	4.0	11.20	34.965	..	35.479
	47		Juno	..	5	I–IX.	138	55	10.3	14.9	14.0	12.0	10.0	4.0	10.87	36.008	..	36.512
	48		O. Arg. S. 22656	7.2	3	I–V.	156	30	10.0	14.1	15.0	12.7	9.0	3.5	10.72	30.131	..	30.642
	49		O. Arg. S. 22657	8.0	2	VII, IX.	"	"	"	"	"	"	"	"	"	32.908	..	33.425
	50	μ	Sculptoris	..	5	I–IX.	161	40	8.6	12.6	15.5	12.5	6.9	2.0	9.68	30.688	..	31.204
	51		Nadir 22h. 50m.	..	4	..	270	0	8.1	14.0	13.2	12.6	9.1	4.0	10.17	29.814	..	..
	52		Weisse O, 102	8.0	5	I–IX.	140	55	8.9	11.5	13.0	9.9	6.7	1.8	8.63	29.106	..	29.611
	53		Weisse O, 261	7.0	3	III–VII.	141	50	9.1	13.0	15.5	12.0	7.9	2.1	9.93	30.486	..	30.988
	54		Lacaille 122	..	5	I–IX.	155	40	9.8	13.0	15.4	12.7	9.1	2.2	10.37	27.250	..	27.763
	55		Neptune	..	1	..	126	50	10.1	14.4	16.1	12.1	10.9	4.8	11.40	32.142	..	32.639
	56		Anon. 0h. 38m. 1s.	..	1	..	126	25	10.7	15.0	15.2	13.0	10.1	3.3	11.22	30.205	..	30.701
	57		Weisse O, 935	..	5	I–IX.	134	15	11.0	16.0	15.9	14.2	11.0	5.8	12.32	30.360	..	30.862
	58		Weisse O, 1041	..	3	I–V.	130	15	10.0	14.0	13.8	12.7	8.0	3.2	10.28	18.891	..	19.392
	59		Weisse O, 1054	..	2	VII, IX.	"	"	"	"	"	"	"	"	"	37.103	..	37.604
	60		Weisse I, 62	..	5	I–IX.	117	35	9.0	14.7	..	12.8	9.0	3.0	10.36	27.418	..	27.913
	61		Weisse I, 201	..	1	V.	116	45	8.3	14.2	14.0	11.9	8.3	3.0	9.95	32.411	..	32.911
	62		Weisse I, 381	..	3	I–V.	135	10	7.3	14.6	13.4	11.7	8.1	2.0	9.52	29.950	..	30.452
	63		Weisse I, 402	..	2	III, VII.	"	"	"	"	"	"	"	"	"	36.081	..	36.583
15	64		Venus, mean of limbs.	..	3	III–VII.	124	20	5.7	12.1	12.0	9.5	8.0	1.6	8.15	27.510	..	28.009

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.102	. .	54.0	— 17.6	+ 42.8	36 25 33.7	+ 2 28 5.5	+ 75.0	D.	
2	. .	. .	. .	+ 41.3	55.1	43 36 46.4	— 4 43 7.2	74.8		
3	. .	. .	. .	41.5	56.7	44 26 47.1	— 5 33 7.9	74.5		
4	. .	. .	. .	+ 41.0	+ 1 8.1	229 41 57.6	+ 88 35 36.9	81.5		
5	30.094	59.0	55.4	— 1 3.3	— 1 8.0	310 18 2.1	88 35 37.1	81.4		At 1h. 17m. 4s., 17m. 34s., 18m. 4s., 19m. 4s., and 19m. 34s.
6	30.112	66.5	74.5	— 8.4	+ 30.8	31 40 32.5	+ 7 13 6.7			Cor. for defective illumination = — 0″.15.
7	30.108	71.8	78.9	+ 1 3.9	+ 43.9	41 6 55.6	— 2 13 6.4			Cor. for defective illumination = — 0″.05.
8	30.100	72.5	79.4	— 1 16.4	— 15 13.3	45 43 39.4	— 6 50 0.2			
9	. .	. .	. .	+ 2 16.9	+ 24.2	203 7 49.8	+ 62 1 29.1	38.5		
10	30.035	69.3	64.4	— 2 37.7	— 24.2	336 52 9.6	62 1 29.6			At 21h. 17m. 21s., 18m. 2s., and 18m. 23s.
11	. .	. .	. .	+ 2 40.7	— 32.3	150 22 17.7	9 15 57.0	52.1		
12	. .	. .	. .	— 2 58.1	+ 32.3	29 37 42.9	9 15 56.3			Hour angle = 70s.
13	. .	. .	. .	— 1 17.0	41.8	36 24 34.9	+ 2 29 4.3	55.5		— 0″.14 added to mean of A, B, E, F. Whole rev. from September 27.
14	. .	. .	. .	+ 57.7	+ 58.7	46 2 7.4	— 7 8 28.2	58.6		
15	. .	. .	. .	+ 22.0	— 1 1.6	132 39 31.0	8 26 49.7	63.7		
16	30.040	68.0	62.8	— 2 47.8	+ 4 34.7	78 41 54.7	39 48 15.5	73.3		
17										
18	30.044	67.8	62.0	2.9	1 4.5	48 36 7.1	9 42 27.9			Good.
19	. .	. .	. .	2 51.8	1 5.0	48 48 19.7	— 9 54 40.5	73.0		
20	. .	. .	. .	6.1	44.4	37 55 43.8	+ 0 57 55.4	71.9		
21	. .	. .	61.4	1 47.0	55.3	44 9 14.6	— 5 15 35.4	73.2		
22	. .	. .	. .	— 2 5.1	+ 57.6	45 18 59.3	— 6 25 20.1	74.9		
23	. .	. .	. .	+ 2 34.0	— 10.6	169 27 30.7	+ 28 21 10.0	72.8		
24	. .	. .	. .	— 2 49.5	+ 10.6	10 32 28.6	+ 28 21 10.6			
25	30.044	67.0	61.1	+ 0.8	3 45.9	76 8 55.0	— 37 15 15.8	79.9		
26	. .	. .	. .	1 15.3	2 5.6	65 43 28.8	26 49 49.6	77.9		
27	. .	. .	. .	+ 24.3	53.8	43 21 25.7	4 27 46.5	74.8		
28	. .	. .	. .	— 20.7	55.5	44 15 42.8	— 5 22 3.6	74.6		
29	. .	. .	. .	+ 1 57.3	30.9	28 27 34.4	+ 10 26 4.8	73.8		Whole rev. recorded, 26.
30	. .	. .	. .	— 18.2	30.2	27 55 20.1	10 58 19.1	73.7		
31	. .	. .	. .	— 1 31.6	28.7	26 44 5.6	12 9 33.6	73.3		
32	. .	. .	. .	+ 44.5	+ 67.2	229 41 58.6	88 35 37.9	80.1		At 1h. 22m. 39s., 23m. 27s., 25m. 13s., 26m. 43s., and 27m. 30s. [35s.
33	. .	. .	. .	— 1 2.0	— 67.2	310 18 1.2	88 35 38.0			At intervals of 20s. from 1h. 34m. 15s. till 35m.
34	30.094	65.2	70.7	+ 1 13.4	+ 31.6	32 6 52.9	+ 6 46 46.3			Cor. for defective illumination = — 0″.15.
35	30.084	69.0	74.2	— 3 49.3	45.6	41 52 3.4	— 2 58 24.2			Cor. for defective illumination = — 0″.04.
36	. .	. .	. .	— 42.2	51.0	45 50 16.8 }	— 7 12 41.4			
37	30.072	69.2	75.0	+ 1 22.7	52.0	46 22 24.4 }				Unsteady. [for def. ill. = — 0″.15.
38	29.936	68.5	71.3	— 2 13.8	32.0	32 33 27.4	+ 6 20 11.8			Good. Whole number rev. recorded, 34. Cor.
39	29.940	71.5	73.3	+ 1 13.9	46.7	42 37 8.6	— 3 43 29.4			Cor. for defective illumination = — 0″.03.
40	. .	. .	. .	— 1 1.7	52.6	46 44 59.5 }	7 35 17.6			Hidden by clouds when it entered the field.
41	29.936	72.0	74.0	3 6.2	51.5	46 12 54.1 }				
42	. .	. .	. .	— 1 41.1	48.5	40 9 16.3	1 15 37.1	55.5		
43	30.044	63.0	55.6	+ 1 1.6	59.7	46 2 10.8	7 8 31.6	58.7		
44	30.050	61.5	54.0	1 39.7	2 23.6	68 14 12.3	29 20 33.1	71.5		
45	. .	. .	. .	+ 41.2	2 13.1	66 38 5.0	27 44 25.8	72.7		
46	. .	. .	. .	— 2 51.7	2 16.6	67 9 36.1	28 15 56.9	73.9		
47	30.060	60.7	52.4	3 24.1	1 6.4	48 52 53.1	9 59 13.9			
48	. .	. .	. .	20.1	2 13.0	66 32 3.6	27 38 24.4	76.2		
49	. .	. .	. .	1 47.3	2 12.9	66 30 36.3	27 36 57.1	76.2		
50	30.084	60.0	50.0	— 37.7	2 54.3	71 42 26.2	32 48 47.0	79.3		
51										A windy evening, but readings agree well.
52	30.086	60.0	50.0	+ 12.2	1 11.8	50 56 32.6	12 2 53.4	76.4		
53	. .	. .	. .	— 31.0	1 14.2	51 50 53.1	12 57 13.9	76.6		
54	. .	. .	49.0	+ 1 10.1	2 8.7	65 43 29.1	— 26 49 49.9	78.1		
55	. .	. .	. .	— 1 22.7	43.6	36 49 32.3	+ 2 4 6.9			Taken just as it passed out of the field.
56	. .	. .	. .	22.0	43.2	36 25 32.4	+ 2 28 6.8	74.8		At 0h. 39m. 11s.
57	. .	. .	. .	— 27.0	57.0	44 15 42.3	— 5 22 3.1	74.6		
58	. .	. .	. .	+ 5 32.5	49.8	40 21 32.5	1 27 53.3	74.1		
59	. .	. .	. .	— 3 58.3	49.5	40 12 1.4	— 1 18 22.2	74.1		
60	. .	. .	. .	+ 1 5.4	30.7	27 36 46.4	+ 11 16 52.8	73.5		[corded 4″.7. + 1″.44 added to mean of A, B, E, F. B. re-
61	. .	. .	. .	— 1 31.2	29.5	26 44 8.2	+ 12 9 31.0	73.1		Faint; bisection somewhat uncertain.
62	. .	. .	. .	14.2	59.0	45 10 54.3	— 6 17 15.1	72.3		
63	30.091	57.8	47.4	— 3 26.3	58.9	45 7 42.1	— 6 14 2.9	+ 72.2		
64	29.995	53.0	52.2	+ 1 2.4	+ 35.9	34 21 46.4	+ 4 31 52.8		R.*	Very unsteady. Cor. for def. ill. = — 0″.15. * Mr. J. A. Rogers.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Oct. 16	1	Sun S. L.		3	III-V.	138 15 9.0	15.2	13.3	10.8	10.0	2.5	10.13	33.171	+ 0.500	33.665
	2	Sun N. L.		3	VII-IX.	137 45 10.6	16.1	13.8	13.2	11.8	3.2	11.45	37.360	. .	37.885
	3	*e* Pegasi		3	V-IX.	119 40 7.3	13.3	11.0	10.8	8.0	1.0	8.57	35.412	. .	35.909
	4	Anon. 21h. 40m. 11s.		1	V.	130 10 7.3	14.3	10.7	11.1	8.8	1.7	8.98	32.883	. .	33.383
	5	B. A. C. 7702	7.0	5	I-IX.	163 30 7.6	14.1	15.0	12.2	10.1	1.1	10.02	25.775	. .	26.292
	6	Lacaille 9036	6.0	1	IX.	" " "	"	"	"	"	"	"	28.483	. .	29.017
	7	*θ* Aquarii		5	I-IX.	137 20 8.0	15.1	13.6	11.5	10.1	0.8	9.85	30.977	. .	31.481
	8	Lacaille 9290		5	I-IX.	158 45 7.7	15.2	15.2	15.0	9.9	1.0	10.67	30.556	. .	31.071
	9	Juno		3	VI, VIII, IX.	139 20 7.9	14.9	12.5	12.7	10.8	1.0	9.97	25.794	. .	26.305
	10	*o* Cephei		5	III-VII.	61 30 7.9	14.6	16.0	14.9	11.0	5.0	11.57	27.581	. .	28.063
	11	Weisse XXIII, 386	9.5	2	V, IX.	127 55 7.2	14.1	12.2	11.4	9.1	1.1	9.18	29.925	. .	30.425
	12	Lacaille 9524		1	VI.	164 40 8.0	16.0	16.0	16.0	12.0	2.2	11.70	30.787	. .	31.290
	13	Nadir 0h. 10m.		6	. .	270 0 7.2	15.0	13.0	15.1	11.0	3.8	10.85	29.864	. .	. .
	14	Neptune		1	IX.	126 50 8.3	12.2	13.0	9.7	9.0	0.9	8.85	27.220	. .	27.719
	15	Anon. 0h. 38m. 1s.		2	VII, IX.	126 25 8.0	12.8	13.0	10.0	8.7	0.9	8.90	30.197	. .	30.698
	16	Santini 58		5	I-IX.	120 30 8.0	14.0	13.7	11.5	9.9	1.0	9.68	33.270	. .	33.766
	17	Weisse O, 1034		1	IX.	119 40 7.8	13.7	13.0	11.5	9.1	1.1	9.37	27.633	. .	28.141
	18	Santini 64		3	V, VIII, IX.	" " "	"	"	"	"	"	"	26.979	. .	27.483
	19	Venus, mean of limbs.		3	III-VII.	124 50 9.0	18.3	17.3	16.7	11.4	2.6	12.55	32.458	. .	32.957
17	20	Sun S. L.		4	I-IV.	138 34 67.0	73.7	72.0	71.2	67.7	58.9	68.42	29.339	. .	29.826
	21	Sun N. L.		4	VI-IX.	138 5 9.3	16.0	14.2	13.9	10.8	1.0	10.87	33.590	. .	34.111
	22	Nadir 20h. 45m.		5	. .	270 0 8.4	11.5	12.8	8.9	10.7	2.9	9.20	29.792	. .	. .
19	23	Lacaille 9261		3	II, V, VII.	157 8 67.2	72.2	71.0	69.7	67.0	58.4	67.58	32.884	+ 0.514	33.406
	24	59 Pegasi		3	III-VII.	120 54 8.0	12.7	11.1	9.5	8.3	1.0	8.43	31.271	. .	31.784
	25	Lacaille 9453		3	III-VII.	153 4 8.9	12.1	13.9	11.0	9.8	2.0	9.62	32.125	. .	32.643
	26	*μ* Sculptoris		3	III-VII.	161 44 7.6	12.1	14.4	11.9	8.5	1.0	9.25	38.202	. .	38.722
	27	Nadir 0h. 10m.		4	. .	269 59 11.0	15.5	15.8	13.9	14.1	5.3	12.60	27.973	. .	. .
	28	Venus, mean of limbs.		5	I-IX.	126 14 11.1	16.1	14.0	11.8	12.8	4.0	11.63	33.436	+ 0.487	33.922
20	29	Sun N. L.		4	I-IV.	139 9 7.9	12.0	10.0	8.2	8.8	0.1	7.83	31.345	. .	31.820
	30	Sun S. L.		4	VI-IX.	139 39 7.9	11.3	8.7	6.1	9.0	0.0	7.17	27.132	. .	27.640
	31	*a* Cephei		4	III, IV, V, VII.	66 54 8.0	13.0	14.0	11.9	12.2	5.9	10.83	32.699	. .	33.170
	32	*e* Pegasi		5	I-IX.	119 34 8.6	12.9	10.1	8.2	10.1	2.0	8.65	23.777	. .	24.260
	33	27 Aquarii		3	V-IX.	126 49 8.8	12.5	11.0	8.2	10.2	1.6	8.72	30.433	. .	30.919
	34	*ζ* Pegasi		5	I-IX.	118 44 8.8	13.2	10.0	9.0	9.1	2.0	8.68	27.933	. .	28.415
	35	Juno		5	I-IX.	139 49 8.2	14.0	11.1	10.1	10.1	1.9	9.23	31.187	. .	31.679
	36	Weisse XXII, 1017		2	VII, IX.	" " "	"	"	"	"	"	"	25.860	. .	26.353
	37	B. A. C. 8169		5	I-IX.	128 19 8.2	12.2	9.9	8.1	10.0	1.2	8.27	25.130	. .	25.617
	38	*γ* Cephei		4	VI-IX.	51 59 8.3	13.5	14.1	12.0	12.3	4.9	10.85	25.887	. .	26.270
	39	Nadir 0h.		5	. .	269 59 8.0	12.8	11.7	10.9	12.0	4.1	9.92	27.915	. .	. .
	40	Neptune		3	III-VII.	126 54 8.8	11.3	11.0	7.9	10.2	1.3	8.42	30.146	. .	30.633
	41	Anon. 0h. 38m. 1s.		3	III-VII.	126 24 8.8	12.1	11.5	8.0	10.7	1.1	8 70	28.174	. .	28.661
	42	O. Arg. S. 423		5	I-IX.	147 39 7.8	11.9	13.0	8.9	9.2	0.8	8.60	28.278	. .	28.774
	43	O. Arg. S. 492		1	V.	" " "	"	"	"	"	"	"	35.778	. .	36.265
	44	O. Arg. S. 498		1	IX.	" " "	"	"	"	"	"	"	32.685	. .	33.188
	45	Weisse O, 891		2	VII, IX.	121 54 7.7	11.3	11.7	8.0	8.9	0.0	7.93	31.216	. .	31.699
	46	Weisse I, 62		2	VII, IX.	117 34 8.6	13.0	. .	9.1	10.0	1.9	8.88	25.408	. .	25.889
	47	Weisse I, 328		3	III-VII.	122 34 9.1	13.2	12.0	8.7	9.4	2.0	9.07	24.114	. .	24.600
	48	Anon. 1h. 38m. 59s.	7.5	3	III-VII.	126 4 9.7	14.5	13.0	8.7	11.7	2.0	9.93	21.802	. .	22.289
	49	Venus, mean of limbs.		3	III-VII.	126 40 9.4	11.5	12.0	8.0	8.4	0.3	8.27	29.388	. .	29.895
21	50	Sun N. L.		4	I-IV.	139 29 68.4	72.1	70.6	68.8	69.3	59.7	68.15	30.650	. .	31.125
	51	Sun S. L.		4	VI-IX.	140 0 11.3	4.9	13.6	11.8	13.3	3.1	9.67	26.572	. .	27.060
	52	11 Cephei, (Ref.)		3	III-V.	301 45 9.0	11.8	14.5	7.4	9.4	0.5	8.77	24.429	. .	24.934
	53	11 Cephei		4	VI-IX.	58 10 7.2	12.2	15.5	13.1	13.2	6.2	11.23	25.720	. .	26.138
	54	Nadir 0h. 10m.		4	. .	269 59 65.5	69.5	70.6	68.8	66.9	58.2	66.58	29.703	. .	. .
	55	Neptune		5	I-IX.	126 54 67.1	71.4	71.5	69.1	67.8	58.7	67.60	30.922	. .	31.408
	56	Anon. 0h. 38m. 1s.		5	I-IX.	126 24 67.9	72.5	72.6	69.9	68.9	59.2	68.50	30.151	. .	30.637
23	57	Sun S. L.		4	I-IV.	140 45 9.1	12.3	12.0	8.2	8.0	1.8	8.57	31.641	. .	32.116
	58	Sun N. L.		4	VI-IX.	140 15 10.1	15.8	12.0	10.1	10.0	2.2	10.03	35.826	. .	36.334
24	59	29 Piscium		3	III-VII.	132 40 10.1	17.0	16.1	15.5	9.8	2.0	11.75	31.730	. .	32.218
	60	Anon. 0h. 31m. 8s.		3	III-VII.	126 55 9.0	15.6	13.0	14.0	9.7	1.1	10.40	37.008	. .	37.495
	61	Neptune		3	III-VII.	" " "	"	"	"	"	"	"	27.649	. .	28.136
	62	Nadir		3	. .	270 0 8.5	14.9	14.1	14.9	8.4	1.1	10.32	29.838	. .	. .
25	63	Sun N. L.		4	I-IV.	140 55 10.0	14.5	14.0	13.0	8.4	0.4	10.05	32.950	. .	33.426
	64	Sun S. L.		4	VI-IX.	141 25 8.6	13.5	12.9	13.0	9.8	0.6	9.73	28.460	. .	28.968

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
		°	°	′ ″	′ ″	° ′ ″	° ′ ′	″		
1	30.008	55.3	53.8	— 1 54.9	+ 58.2	48 14 13.4	— 9 4 28.2		D.	
2	- -	- -	- -	4 7.1	57.1	47 42 1.4				
3	- -	- -	- -	3 5.2	33.5	29 37 36.8	+ 9 16 2.4	+ 52.1		
4	30.108	53.0	46.3	— 1 46.0	49.7	40 9 12.6	— 1 15 33.4	55.6		Barometer and thermometer at 1h. 47m.
5	- -	- -	- -	+ 1 56.2	3 16.8	73 35 23.0	34 41 43.8	70.0		A. R. recorded 22h. 1m. 34s.; assumed err. of 1m.
6	- -	- -	- -	+ 30.8	3 16.6	73 33 57.4	34 40 18.2	70.4		
7	- -	- -	- -	— 46.4	1 3.9	47 20 27.3	8 26 48.1	64.0		
8	- -	- -	- -	— 33.6	2 30.5	68 47 7.5	29 53 28.3	75.5		B. recorded 5″.2.
9	30.140	51.2	45.7	+ 1 55.8	+ 1 8.7	49 23 14.4	— 10 29 35.2			
10	- -	- -	- -	+ 1 0.7	— 32.0	331 30 40.2	+ 67 22 59.0	65.4		Circle reading recorded 61° 20′.
11	- -	- -	- -	— 13.3	+ 46.0	37 55 41.8	+ 0 57 57.4	72.0		
12	30.144	50.5	44.9	— 40.4	3 32.3	74 43 3.6	— 35 49 24.4	80.5		
13										Unsteady.
14	- -	- -	- -	+ 1 11.5	44.2	36 52 4.5	+ 2 1 34.7			Hazy; very faint.
15	- -	- -	- -	— 21.9	43.7	36 25 30.7	2 28 8.5	74.8		
16	- -	- -	- -	— 1 58.0	34.9	30 28 46.5	8 24 52.7	73.9		
17	- -	- -	- -	+ 58.3	33.8	29 41 41.4	9 11 57.8	73.7		
18	30.154	51.0	43.7	+ 1 18.9	33.8	29 42 2.0	9 11 37.2	73.6		Cloudy.
19	30.210	48.0	50.6	— 1 32.7	37.0	34 49 16.8	+ 4 4 22.4		R.	Very unsteady. Cor. for def. ill. = —0″.14.
20	- -	- -	- -	+ 0.5	59.1	48 36 8.0	— 9 26 24.8			Both limbs ragged and unsteady.
21	30.184	52.5	56.3	— 2 8.8	58.0	48 4 0.0				
22										
23	29.488	55.0	49.9	1 46.7	2 14.9	67 9 35.7	— 28 15 56.5	75.0		A. R. recorded 22h. 42m. 4s.; assumed err. of 1m.
24	- -	- -	- -	55.9	34.3	30 53 46.8	+ 7 59 52.4	68.9		Whole rev. recorded, 26.
25	- -	- -	- -	1 22.8	1 52.4	63 4 39.2	— 24 11 0.0	77.6		
26	29.497	54.0	48.6	4 33.4	2 51.5	71 42 27.3	— 32 48 48.1	80.7		Number of rev. not recorded.
27										
28	29.650	57.2	57.3	2 2.9	37.7	36 12 46.4	+ 2 40 52.8		D.	Cor. for defective illumination = —0″.13.
29	- -	- -	- -	— 57.0	58.8	49 9 9.6	— 10 31 36.1			
30	29.660	59.0	59.0	+ 1 14.0	+ 1 0.0	49 41 21.1				
31	29.740	56.5	53.0	— 1 39.4	— 24.5	336 52 6.9	+ 62 1 32.3	37.0		
32	- -	- -	- -	+ 2 59.9	+ 32.6	29 37 41.1	9 15 58.1	52.1		
33	29.750	56.0	53.5	— 28.8	42.9	36 49 22.8	2 4 16.4	54.9		Barometer and thermometer at 21h. 45m.
34	29.774	56.0	53.6	+ 49.7	31.5	28 45 29.8	+ 10 8 9.4	63.8		
35	- -	- -	- -	— 52.6	1 7.9	49 49 24.5	— 10 55 45.3			
36	29.779	56.2	53.7	+ 1 54.3	1 8.0	49 52 11.5	— 10 58 32.3	71.5		
37	29.778	56.3	52.8	2 17.4	+ 45.5	38 22 11.1	+ 0 31 28.1	72.2		
38	- -	- -	- -	+ 1 56.9	— 44.9	322 0 22.8	76 53 16.4	68.1		
39										
40	- -	- -	- -	— 19.8	+ 43.0	36 54 31.6	1 59 7.6			
41	- -	- -	- -	+ 42.0	42.5	36 25 33.2	+ 2 28 6.0	75.0		
42	29.780	56.7	52.0	+ 38.4	1 30.8	57 41 17.8	— 18 47 38.6	77.6		
43	- -	- -	- -	— 3 16.4	1 30.5	57 37 22.7	18 43 43.5	77.3		
44	- -	- -	- -	1 39.9	1 30.6	57 38 59.3	— 18 45 20.1	77.3		
45	- -	- -	- -	— 53.3	35.9	31 53 50.5	+ 6 59 48.7	74.2		Circle reading recorded 121° 50′.
46	- -	- -	- -	+ 2 8.9	30.2	27 36 47.9	11 16 51.3	73.3		+0″.51 added to mean of A, B, E, F.
47	29.782	56.7	51.0	2 49.2	36.9	32 37 35.1	6 16 4.1	72.5		
48	29.788	56.5	51.0	4 1.7	42.1	36 8 53.7	2 44 46.5	70.9		Barometer and thermometer at 1h. 46m.
49	29.978	56.0	55.4	+ 3.3	39.0	36 40 50.5	+ 2 12 48.7		R.	
50	- -	- -	- -	— 35.2	1 0.5	49 30 33.4	— 10 52 58.9		N.	
51	29.978	58.0	57.7	+ 1 31.5	1 1.7	50 2 42.8				
52	- -	- -	- -	2 38.8	+ 36.5	211 48 24.0	+ 70 42 3.3	43.6		
53	30.086	54.5	46.1	+ 2 1.0	— 36.5	328 11 35.7	70 42 3.5			Excessively unsteady.
54										
55	30.126	48.0	41.2	— 44.1	+ 44.5	36 55 8.0	1 58 31.2			
56	- -	- -	- -	20.0	43.9	36 25 32.4	+ 2 28 6.8	75.0		Very bad night for observing.
57	- -	- -	- -	1 6.3	1 3.4	50 45 5.6	— 11 35 20.4		D.	
58	30.101	55.0	59.9	3 18.5	1 2.1	50 12 53.6				
59	30.189	45.5	40.4	1 9.5	55.0	42 39 57.2	— 3 46 18.0	75.6	R.	
60	- -	- -	- -	— 3 54.9	44.8	36 52 0.3	+ 2 1 38.9	+ 75.1		
61	30.181	45.8	40.0	+ 58.4	44.8	36 56 53.6	+ 1 56 45.6			
62										
63	- -	- -	- -	— 1 47.4	1 5.3	50 54 27.9	— 12 16 59.1			
64	30.238	50.5	51.1	+ 32.3	+ 1 6.7	51 26 48.7				

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Corrc'd.
						° ′ ″	″	″	″	″	″	″	r.	r.	r.
1865.															
Oct. 25	1	η Aquarii		4	I-IV.	129 40 8.0	11.7	9.7	10.5	8.0	0.0	7.98	27.647	+ 0.487	28.134
	2	η Aquarii, (Ref.)		2	VI, IX.	230 20 8.6	11.4	14.5	14.0	10.7	3.8	10.50	31.968	. .	32.455
	3	ι Cephei, (Ref.)		4	I-IV.	296 35 9.1	14.5	14.4	11.1	5.2	1.6	9.32	28.043	. .	28.583
	4	ι Cephei		4	VI-IX.	63 25 9.4	15.2	15.5	16.1	12.2	5.1	12.25	31.757	. .	32.191
	5	Nadir 23h. 20m.		3	. .	270 0 8.8	13.0	12.8	13.2	10.6	2.8	10.20	29.840	. .	. .
	6	B. A. C. 8287	7.5	3	IV-VI.	149 50 8.7	13.8	14.9	13.4	9.9	0.1	10.13	28.810	. .	29.298
	7	γ Pegasi, (Ref.)		4	VI-IX.	245 30 7.7	12.5	14.7	14.0	10.0	4.6	10.58	23.665	. .	24.158
	8	Neptune		5	I-IX.	126 54 67.1	73.1	71.9	70.2	69.2	59.4	68.48	26.533	. .	27.019
	9	Anon. 0h. 38m. 1s.		5	I-IX.	126 24 67.9	73.6	73.0	71.0	69.9	59.6	69.17	30.188	. .	30.674
	10	O. Arg. S. 423	5.3	2	VIII, IX.	147 40 9.0	14.5	15.9	13.5	9.8	0.8	10.58	30.307	. .	30.807
	11	Weisse O, 891	9.0	1	V.	121 55 9.5	15.0	14.9	13.7	10.6	1.6	10.88	33.299	. .	33.786
	12	Weisse O, 997	8.8	3	III-VII.	120 0 9.4	13.6	13.5	11.1	11.1	1.0	9.95	27.968	. .	28.454
	13	Venus, mean of limbs.		3	III-VII.	129 5 10.0	17.0	14.6	16.1	11.1	3.5	12.05	35.782	. .	36.269
26	14	Sun S. L.		4	I-IV.	141 45 9.1	14.1	15.8	13.6	10.9	1.5	10.83	27.722	. .	28.198
	15	Sun N. L.		3	VII-IX.	141 15 9.1	13.5	14.0	14.3	10.8	1.0	10.45	31.930	. .	32.443
	16	Nadir 0h. 15m.		5	. .	270 0 12.7	16.4	16.1	14.4	15.2	6.6	13.57	29.934	. .	. .
28	17	Moon S. L.		5	I-IX.	139 40 14.2	16.0	15.9	10.6	16.7	6.7	13.35	34.476	. .	34.968
	18	Nadir 22h. 10m.		4	. .	270 0 6.9	8.9	9.6	5.0	9.1	2.0	6.92	29.746	. .	. .
	19	Neptune		3	V-IX.	127 0 7.2	11.1	10.0	6.2	8.5	0.5	7.25	32.796	. .	33.282
	20	Anon. 0h. 38m. 1s.		3	I-V.	126 25 7.2	10.9	10.2	6.1	8.9	0.3	7.27	30.067	. .	30.553
30	21	Moon S. L.		5	I-IX.	130 39 65.9	73.7	69.3	71.1	67.0	59.0	67.67	36.569	. .	37.057
	22	Nadir 23h. 45m.		4	. .	270 0 5.7	12.1	11.1	10.7	9.0	0.9	8.25	29.780	. .	. .
Nov. 1	23	Sun N. L.		4	I-IV.	143 15 5.5	11.3	. .	. .	. .	. .	7.56	34.378	+ 0.516	34.885
	24	Sun S. L.		4	VI-IX.	143 45 3.2	9.4	. .	. .	. .	. .	5.48	29.955	. .	30.492
	25	Neptune		5	I-IX.	126 59 64.6	68.8	67.5	65.0	66.8	57.6	65.05	28.692	+ 0.487	29.178
	26	Anon. 0h. 38m. 1s.		5	I-IX.	126 24 65.4	69.4	68.1	64.8	67.1	58.2	65.50	30.041	. .	30.527
	27	Moon S. L.		5	I-IX.	120 54 65.2	69.8	69.3	66.9	66.9	58.8	66.15	33.334	. .	33.817
	28	Nadir, 1h. 40m.		4	. .	269 59 65.8	69.2	69.8	67.0	67.9	59.8	66.58	29.726	. .	. .
6	29	Sun S. L.		2	V, VI.	145 15 7.2	15.2	12.8	12.5	9.9	0.1	9.62	25.351	+ 0.470	25.825
	30	Sun N. L.		2	VIII, IX.	144 44 67.1	75.0	71.8	71.0	69.9	59.3	69.02	29.757	. .	30.257
	31	Mercury		5	I-IX.	148 44 67.1	73.2	72.1	73.0	67.9	58.0	68.55	34.299	. .	34.778
	32	Radcliffe 6081		4	VI-IX.	74 45 7.3	16.0	16.6	16.7	13.1	5.0	12.45	28.177	. .	28.614
	33	α Andromedæ, (Ref.)		3	I, II, V.	259 25 7.4	13.7	13.9	15.9	11.4	4.3	11.10	24.602	. .	25.086
	34	α Andromedæ		3	IX.	100 35 7.7	14.9	14.0	14.0	10.9	3.0	10.75	35.231	. .	35.675
	35	Neptune		3	III-VII.	127 5 8.0	15.0	13.4	12.3	10.7	2.0	10.23	33.799	. .	34.269
	36	Anon. 0h. 38m. 1s.		3	III-VII.	126 25 8.3	15.8	14.2	13.0	11.7	2.2	10.87	30.252	. .	30.722
	37	O. Arg. S. 423		3	III-VII.	147 40 8.8	15.0	16.0	13.3	10.9	1.8	10.97	30.272	. .	30.745
	38	Weisse O, 925		1	VI.	120 55 9.7	16.5	15.7	14.7	12.1	3.0	11.95	31.411	. .	31.880
	39	Weisse I, 39		3	III-VII.	119 20 9.5	16.7	13.9	13.3	11.9	2.9	11.37	33.126	. .	33.594
	40	Weisse I, 328		5	I-IX.	122 35 9.9	16.6	16.0	14.4	11.5	3.7	12.02	26.145	. .	26.612
	41	Nadir 1h. 45m.		5	. .	270 0 9.3	17.0	15.8	16.2	14.3	6.6	13.20	29.951	. .	. .
	42	Venus, mean of limbs.		5	I-IX.	134 45 9.9	17.3	16.0	15.5	12.9	5.0	12.77	31.220	. .	31.693
7	43	Sun N. L.		4	I-IV.	145 5 10.1	16.0	14.9	12.3	13.0	4.1	11.73	34.287	. .	34.750
	44	Sun S. L.		4	VI-IX.	145 35 11.1	18.0	16.9	14.0	15.0	6.1	13.52	29.849	. .	30.340
	45	Mercury		5	I-IX.	149 10 11.0	16.1	16.0	14.2	13.0	4.3	12.43	27.851	. .	28.330
	46	Lacaille 9244	7.7	1	VIII.	162 45 6.1	13.3	. .	. .	. .	. .	9.42	32.248	+ 0.475	32.726
	47	Lacaille 9284		1	VI.	168 30 2.3	8.5	. .	. .	. .	. .	5.16	32.340	. .	32.802
	48	Anon. 23h. 7m. 32s.		3	II-VIII.	168 45 1.3	8.4	. .	. .	. .	. .	4.62	33.060	. .	33.534
	49	Lacaille 9547		1	V.	162 20 2.4	10.2	. .	. .	. .	. .	6.02	31.635	. .	32.110
	50	c^3 Piscium		3	III-VII.	121 10 2.6	10.0	. .	. .	. .	. .	5.42	32.776	. .	33.250
	51	Weisse O, 287	8.7	1	VI.	126 15 2.8	10.8	. .	. .	. .	. .	5.83	30.005	. .	30.480
	52	Weisse O, 358		1	V.	121 30 2.5	9.6	. .	. .	. .	. .	5.21	29.052	. .	29.527
	53	Lacaille 121	5.7	1	V.	154 55 2.3	9.4	. .	. .	. .	. .	5.16	25.171	. .	25.646
	54	Neptune		5	I-IX.	127 4 62.0	69.8	68.9	68.8	65.0	55.3	64.97	32.782	+ 0.458	33.239
	55	Anon. 0h. 38m. 2s.		5	I-IX.	126 24 62.4	69.8	69.0	68.4	64.8	55.8	65.03	30.137	. .	30.594
	56	Nadir 0h. 50m.		4	. .	269 59 62.9	69.7	70.4	71.1	65.3	57.5	66.15	29.735	. .	. .
	57	Venus, mean of limbs		5	I-IX.	135 15 9.0	21.0	17.7	18.5	13.4	3.7	13.88	34.777	. .	35.238
8	58	Sun S. L.		4	I-IV.	145 55 8.7	19.5	17.0	17.7	12.3	3.9	13.18	34.806	. .	35.257
	59	Sun N. L.		4	VI-IX.	145 25 7.3	18.0	14.8	14.6	11.2	2.1	11.33	39.205	. .	39.684
	60	Mercury		5	III-VII.	149 40 7.1	17.0	16.0	16.0	11.7	1.1	11.48	32.756	. .	33.217
	61	Weisse XXIII, 386		3	II-VIII.	127 54 67.3	74.0	71.1	71.0	69.6	59.8	68.80	29.820	. .	30.278
	62	Nadir 23h. 40m.		4	. .	270 0 8.9	16.0	14.2	15.0	13.5	4.1	11.95	29.920	. .	. .
	63	Weisse XXIII, 1075		2	VII, IX.	128 35 9.0	15.0	. .	. .	. .	. .	10.74	35.285	+ 0.475	35.760
	64	Weisse XXIII, 1090		1	IX.	" " "	"	. .	. .	. .	. .	"	32.660	. .	33.135

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	+ 58.5	+ 49.5	39 41 55.9	— 0 48 16.7	+ 65.5	N.	
2	30.214	48.0	41.7	— 1 16.9	— 49.5	140 18 4.1	— 0 48 16.6			Very uncertain.
3	. .	. .	. .	+ 44.4	+ 29.9	206 36 23.6	+ 65 30 2.9	57.8		
4	. .	. .	. .	— 1 8.7	— 29.9	333 23 33.6	+ 65 30 5.6			
5										Microscope D recorded 3″.2.
6	30.216	47.5	40.8	+ 22.0	+ 1 42.5	59 52 14.6	— 20 58 35.4	79.0		
7	. .	. .	. .	3 3.1	— 27.2	155 32 46.4	+ 14 26 25.7	72.8		
8	30.217	45.5	39.7	+ 1 33.4	+ 44.9	36 57 26.7	1 56 12.5			Barometer recorded ".117."
9	. .	. .	. .	— 21.1	44.2	36 25 32.2	+ 2 28 7.0	75.0		
10	. .	. .	. .	25.3	1 34.5	57 41 19.7	— 18 47 40.5	78.3		
11	. .	. .	39.3	— 1 58.7	37.3	31 53 49.4	+ 6 59 49.8	74.1		Circle reading recorded 121° 45′.
12	. .	. .	. .	+ 48.5	34.6	30 1 33.0	+ 8 52 6.2	73.6		
13	30.234	46.1	49.3	— 3 16.5	43.7	39 2 39.2	— 0 9 0.0		R.	Cor. for defective illumination = — 0″.12.
14	. .	. .	. .	+ 56.5	1 6.9	51 47 14.2 }				
15	30.200	50.0	54.5	— 1 16.6	+ 1 5.6	51 14 59.4 }	12 37 27.6			
16										
17	29.828	57.5	51.3	2 35.7	— 59 15.3	48 38 22.3	— 9 44 43.1		N.	
18										Difficult; very high wind.
19	. .	. .	. .	1 42.9	+ 43.8	36 59 8.1	+ 1 54 31.1			
20	29.923	53.5	47.5	17.3	+ 43.1	36 25 33.0	+ 2 28 6.2	75.0		
21	30.403	47.2	42.3	3 41.2	— 54 38.1	39 41 48.3	— 0 48 9.1		D.	
22										
23	. .	. .	. .	2 33.1	+ 1 11.3	53 13 45.7 }			N.	} Could not read other microscopes for want of illumination.
24	30.356	50.3	52.9	— 15.4	1 12.9	53 46 2.9 }	— 14 36 15.1			
25	. .	. .	. .	+ 25.8	44.5	37 1 15.3	+ 1 52 23.9			
26	30.277	50.5	46.1	— 16.5	+ 43.7	36 25 32.7	2 28 6.5	75.3		
27	30.266	50.0	45.8	— 1 59.6	— 47 23.9	30 5 42.6	+ 8 47 56.6			
28										
29	. .	. .	. .	+ 2 10.8	+ 1 17.9	55 18 38.3 }			D.	
30	30.104	46.0	45.6	— 8.0	1 16.3	54 46 17.3 }	— 16 8 48.6			
31	30.070	47.0	46.8	— 2 29.7	+ 1 31.3	58 44 10.1	— 19 50 30.9			
32	29.967	46.7	43.5	+ 43.4	— 16.1	344 45 39.7	+ 54 7 59.5	62.0		
33	. .	. .	. .	+ 2 34.0	— 11.0	169 27 34.1	28 21 13.4	69.6		
34	29.985	47.0	43.5	— 2 57.9	+ 11.0	10 32 23.8	28 21 15.4			Two readings at 0h. 2m. 53s. and 3m. 6s. Barometer and thermometer at 0h. 6m.
35	. .	. .	. .	2 13.8	44.4	37 3 40.8	1 49 58.4			
36	. .	. .	. .	22.6	43.6	36 25 31.8	+ 2 28 7.4	75.4		
37	. .	. .	. .	23.3	1 33.2	57 41 20.8	— 18 47 41.6	80.0		
38	. .	. .	. .	58.9	35.4	30 54 48.4	+ 7 58 50.8	74.0		Faint; uncertain.
39	29.991	46.7	41.7	— 1 52.6	33.3	29 18 52.0	9 34 47.2	73.3		
40	. .	. .	42.0	+ 1 46.2	37.9	32 37 36.1	+ 6 16 3.1	72.7		Circle reading recorded 122° 25′.
41										
42	30.296	46.3	44.9	— 53.1	54.7	44 45 14.3	— 5 51 35.1			Cor. for defective illumination = — 0″.09.
43	. .	. .	. .	2 28.9	1 17.7	55 4 0.5 }				} Disk indistinct; diameter probably made too large.
44	30.320	49.3	46.1	— 10.7	1 19.3	55 36 22.1 }	16 26 32.1			
45	30.328	50.7	46.3	+ 52.3	1 34.0	59 12 38.7	20 18 59.5			
46	30.421	43.5	37.3	— 1 25.5	3 13.0	72 46 56.9	33 53 17.7	78.7	N.	Before this observation lengthened focus.
47	. .	. .	. .	1 27.8	4 50.0	78 33 27.3	39 39 48.1	81.3		
48	. .	. .	. .	1 50.8	4 56.8	78 48 19.6	39 54 31.4	83.9		
49	30.429	. .	35.2	1 6.1	3 9.1	72 22 9.0	— 33 28 29.8	83.8		
50	. .	. .	. .	1 41.8	36.9	31 9 0.5	+ 7 44 38.7	73.5		The preceding observations were made with the focusing cap still on the telescope, and are therefore unreliable.
51	. .	. .	. .	— 15.0	44.8	36 15 35.6	2 38 3.6	75.5		
52	. .	. .	. .	+ 14.8	37.5	31 30 57.5	+ 7 22 41.7	74.5		
53	30.437	41.3	33.4	+ 2 16.5	2 10.3	64 59 31.9	— 26 5 52.7	82.5		
54	. .	. .	. .	— 1 41.5	46.0	37 4 9.4	+ 1 49 29.8			
55	. .	. .	. .	18.6	45.1	36 25 31.5	+ 2 28 7.7	75.5		
56										
57	30.508	37.0	38.0	2 44.2	57.0	45 13 26.6	— 6 19 47.4		D.	Very good. Cor. for defective ill. = — 0″.09.
58	. .	. .	. .	2 44.8	1 21.4	55 53 49.7 }				} Good.
59	30.469	41.5	42.5	5 3.6	1 19.6	55 21 27.3 }	16 43 59.3			
60	30.452	42.0	43.7	1 40.8	1 36.8	59 40 7.4	— 20 46 28.2			Good.
61	30.326	42.3	37.2	8.7	47.1	37 55 47.2	+ 0 57 52.0	72.6		
62										Very good.
63	. .	. .	. .	3 0.6	48.2	38 32 58.3	0 20 40.9	75.3		
63	. .	. .	. .	— 1 38.3	+ 48.3	38 34 20.7	+ 0 19 18.5	+ 75.3		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Nov. 8	1	Weisse O, 196	9.0	3	II, IV, V.	126 35 9.0	16.2	. .	. .	. .	. .	11.48	33.709	+ 0.475	34.184
	2	Weisse O, 212	7.7	3	V-IX.	" " "	"	. .	. .	. .	. .	"	29.074	. .	29.548
	3	12 Ceti	. .	5	I-IX.	133 35 9.1	18.9	. .	. .	. .	. .	13.54	30.868	. .	31.345
	4	Neptune	. .	5	I-IX.	127 5 9.6	17.8	15.0	14.9	12.8	3.8	12.32	32.053	+ 0.458	32.510
	5	Anon. 0h. 38m. 2s.	. .	4	II-VIII.	126 25 9.0	17.2	15.3	14.0	13.7	2.9	12.02	30.265	. .	30.722
	6	Weisse O, 829	8.0	5	I-IX.	122 45 9.0	17.0	16.0	16.4	11.8	4.0	12.37	29.339	. .	29.794
	7	Weisse O, 878	8.0	3	III-VII.	122 0 9.3	17.0	16.1	15.1	12.5	3.4	12.23	30.374	. .	30.831
	8	Piazzi O, 256	8.0	3	V-IX.	121 35 9.2	18.0	15.2	16.8	13.5	3.1	12.63	31.489	. .	31.944
	9	Weisse I, 22	8.0	5	I-IX.	118 25 10.0	17.9	14.0	15.8	12.8	4.0	12.42	26.059	. .	26.512
	10	Weisse I, 66	. .	3	IV-VI.	117 55 10.4	17.8	15.0	16.7	12.9	4.8	12.93	30.322	. .	30.779
	11	Weisse I, 269	. .	5	I-IX.	123 5 10.1	19.0	17.7	18.0	14.0	5.3	14.07	28.289	. .	28.744
	12	Weisse I, 328	. .	5	I-IX.	122 35 10.0	18.2	16.5	16.0	13.3	4.3	13.05	26.186	. .	26.641
	13	Weisse I, 820	. .	1	IX.	120 20 10.3	18.1	17.0	16.2	14.1	4.0	13.28	34.815	. .	35.266
	14	Weisse I, 880	9.0	3	III-VII.	119 40 10.4	17.4	16.0	15.8	13.2	3.2	12.67	31.651	. .	32.107
	15	Weisse I, 1022	6.5	2	V, VII.	119 25 10.0	18.0	15.0	15.2	12.0	3.0	12.20	26.042	. .	26.499
	16	Venus, mean of limbs	. .	3	III-VII.	135 40 10.2	17.5	17.0	15.7	15.2	4.1	13.28	28.819	. .	29.728
9	17	Sun N. L.	. .	4	VI-IX.	145 40 11.8	18.1	17.4	15.9	16.0	6.6	14.30	35.148	. .	35.627
	18	Lacaille 9440	. .	1	IV.	168 50 13.0	16.7	. .	. .	. .	. .	14.62	44.619	+ 0.475	45.098
	19	ν Pegasi	. .	1	IX.	106 15 14.5	21.0	. .	. .	. .	. .	17.32	33.708	. .	34.163
	20	β Sculptoris	. .	1	V.	167 30 9.1	13.9	. .	. .	. .	. .	11.23	43.319	. .	43.794
	21	Lacaille 9547	. .	1	VIII.	162 20 11.1	16.7	. .	. .	. .	. .	13.62	31.616	. .	32.110
	22	i^2 Aquarii	. .	1	IX.	148 20 10.9	15.7	. .	. .	. .	. .	12.60	34.704	. .	35.196
	23	Lacaille 9695	. .	1	IV.	158 20 11.8	18.2	. .	. .	. .	. .	14.32	30.863	. .	31.340
	24	Weisse XXIII, 1208	. .	1	V.	140 25 13.2	18.6	. .	. .	. .	. .	14.85	32.019	. .	32.494
	25	Neptune	. .	3	III-VII.	127 5 14.0	20.1	19.0	15.0	19.0	8.9	16.00	31.269	+ 0.458	31.727
	26	Anon. 0h. 32m. 2s.	. .	3	III-VII.	126 25 13.7	20.0	18.9	14.6	19.9	8.4	15.92	30.359	. .	30.817
	27	Nadir 1h. 15m.	. .	5	. .	270 0 9.0	14.4	13.9	11.1	14.0	5.6	11.33	29.892	. .	. .
	28	58 Ceti	. .	1	V.	131 40 9.2	15.0	. .	. .	. .	. .	11.09	38.319	+ 0.475	38.794
	29	Venus, mean of limbs	. .	5	I-IX.	136 10 10.3	20.4	18.4	15.7	16.4	5.4	14.43	32.756	+ 0.458	33.217
10	30	Sun N. L.	. .	4	I-IV.	145 55 10.0	18.9	16.8	14.8	15.0	5.3	13.47	31.689	. .	32.141
	31	Sun S. L.	. .	4	VI-IX.	146 25 11.7	18.9	17.0	14.7	15.6	5.5	13.90	27.025	. .	27.504
	32	Nadir 22h. 45m.	. .	4	. .	270 0 11.7	18.2	16.4	16.8	17.1	7.0	14.53	30.011	. .	. .
	33	B. A. C. 8169	. .	5	I-IX.	128 20 12.0	18.3	15.9	15.1	15.2	5.7	13.70	27.321	. .	27.779
	34	1 Ceti	7.5	3	III-VII.	145 30 12.1	20.8	. .	. .	. .	. .	15.66	34.372	+ 0.475	34.850
	35	Weisse XXIII, 1208	. .	3	III-VII.	140 25 9.0	16.0	. .	. .	. .	. .	11.45	32.112	. .	32.589
	36	Weisse O, 41	. .	3	III-VII.	138 55 8.8	16.8	. .	. .	. .	. .	11.66	30.635	. .	31.112
	37	35^1 Piscium	8.5	2	I, IX.	120 50 8.9	16.1	. .	. .	. .	. .	11.58	32.843	. .	33.311
	38	35^2 Piscium	7.0	3	III-VII.	" " "	"	. .	. .	. .	. .	"	33.159	. .	33.633
	39	Lacaille 49	8.0	3	IV-VI.	159 15 9.5	18.0	. .	. .	. .	. .	13.19	26.408	. .	26.885
	40	Lacaille 82	. .	3	III-VII.	151 15 9.0	17.1	. .	. .	. .	. .	12.50	31.356	. .	31.835
	41	Weisse O, 358	. .	3	III-VII.	121 30 8.9	17.0	. .	. .	. .	. .	12.11	29.289	. .	29.763
	42	Neptune	. .	5	I-IX.	127 5 8.8	17.3	15.0	13.1	13.3	3.0	11.75	30.425	+ 0.458	30.882
	43	Anon. 0h. 32m. 2s.	. .	5	I-IX.	126 25 8.7	17.0	15.1	13.9	13.0	2.2	11.65	30.324	. .	30.781
	44	Weisse O, 726	. .	3	III-VII.	124 40 9.0	17.1	15.3	14.7	13.1	3.5	12.12	27.902	. .	28.359
	45	Weisse O, 800	. .	3	III-VII.	" " "	"	"	"	"	"	"	37.134	. .	37.591
	46	Weisse O, 878	. .	3	V-IX.	122 0 9.6	17.7	16.5	14.9	14.0	3.2	12.65	30.443	. .	30.898
	47	B. A. C. 291	. .	3	III, V, IX.	134 25 10.0	19.1	18.0	16.8	16.0	5.1	14.27	28.400	. .	28.860
	48	Weisse I, 39	. .	5	I-IX.	119 20 8.6	16.6	12.9	12.7	11.6	1.1	10.58	33.195	. .	33.649
	49	ρ Piscium	. .	3	II, IV, V.	110 25 8.0	16.4	. .	. .	. .	. .	11.55	30.417	+ 0.475	30.888
	50	94 Piscium	. .	3	VII-IX.	" " "	"	. .	. .	. .	. .	"	38.621	. .	39.086
	51	Weisse I, 389	. .	3	III-VII.	128 15 8.0	16.0	13.5	12.7	11.5	1.8	10.58	34.128	+ 0.458	34.586
	52	Venus, mean of limbs.	. .	3	V-IX.	136 40 7.6	19.1	16.0	17.8	12.1	1.0	12.27	36.888	. .	37.366
11	53	Neptune	. .	3	V-IX.	127 5 9.9	19.4	17.0	18.1	13.3	2.6	13.38	29.676	. .	30.133
	54	Lacaille 303	. .	1	V.	153 40 7.2	18.0	. .	. .	. .	. .	11.95	41.100	+ 0.475	41.575
	55	Lacaille 310	. .	1	VIII.	" " "	"	. .	. .	. .	. .	"	40.708	. .	41.196
	56	38 Ceti	. .	1	V.	130 35 6.6	15.9	. .	. .	. .	. .	10.08	31.352	. .	31.827
	57	Weisse I, 288	. .	1	V.	135 35 7.8	19.0	. .	. .	. .	. .	12.63	37.078	. .	37.553
	58	Weisse I, 441	. .	1	VII.	131 25 9.6	19.3	. .	. .	. .	. .	13.40	36.636	. .	37.112
	59	Nadir 1h. 50m.	. .	3	. .	270 0 9.5	19.2	16.4	20.0	13.9	3.0	13.67	29.984	. .	. .
12	60	Venus	. .	5	I-IX.	137 30 9.9	18.7	15.1	14.1	15.3	3.6	12.78	26.993	+ 0.428	27.425
13	61	Sun S. L.	. .	4	I-IV.	147 15 9.3	17.3	15.2	13.7	14.3	4.8	12.43	29.338	. .	29.761
	62	Sun N. L.	. .	4	VI-IX.	146 45 9.2	16.2	14.0	13.1	13.9	5.1	11.92	33.873	. .	34.322
	63	Mercury	. .	5	III-VII.	151 40 8.9	17.7	15.4	14.0	14.3	3.7	12.33	29.849	. .	30.280
	64	Nadir 22h. 30m.	. .	4	. .	270 0 7.9	9.4	10.5	5.9	11.2	3.9	8.13	29.836	. .	. .

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	30.326	. .	42.3	— 2 11.1	+ 44.9	36 33 45.2	+ 2 19 54.0	+ 75.5	D.	At. ther. probably recorded as ex. thermometer.
2	. .	. .	36.0	+ 14.2	45.0	36 36 10.6	+ 2 17 28.6	75.5		
3	. .	. .	. .	— 42.2	57.6	43 35 28.9	— 4 41 49.7	77.3		Very steady.
4	. .	. .	. .	1 18.7	45.6	37 4 39.2	+ 1 49 0.0			
5	. .	. .	35.9	— 22.6	44.7	36 25 34.1	2 28 5.1	75.5		
6	. .	. .	. .	+ 6.5	39.0	32 45 57.8	6 7 41.4	74.5		
7	. .	. .	. .	— 26.0	37.9	32 0 24.1	6 53 15.1	74.2		
8	. .	. .	. .	— 1 1.0	37.2	31 34 48.8	7 18 50.4	74.1		
9	. .	. .	. .	+ 1 49.3	32.9	28 27 34.6	10 26 4.6	73.1		
10	. .	. .	. .	— 24.4	32.1	27 55 20.6	10 58 18.6	72.9		
11	. .	. .	. .	+ 39.3	39.5	33 6 32.8	5 47 6.4	73.1		
12	30.306	42.0	35.3	+ 1 45.3	38.8	32 37 37.1	6 16 2.1	72.8		
13	. .	. .	. .	— 2 45.0	35.4	30 18 3.6	8 35 35.6	70.0		
14	. .	. .	. .	— 1 6.0	34.5	29 39 41.1	9 13 58.1	69.4		[and bright.
15	30.294	41.5	35.9	+ 1 49.7	34.2	29 27 36.1	+ 9 26 3.1	68.4		Remarkably favorable night; stars very steady
16	30.250	43.0	46.5	+ 22.6	56.3	45 41 32.1	— 6 47 52.9		R.	Cor. for defective illumination = — 0″.09.
17	30.232	46.0	51.0	— 2 56.4	17 30.3	55 54 48.2	17 1 9.0			Very unsteady.
18	30.322	51.3	49.0	7 53.2	4 47.4	78 47 8.8	— 39 53 29.6	84.6		Whole rev. recorded, 39.
19	. .	. .	. .	2 10.5	17.2	16 13 24.0	+ 22 40 15.2	66.6		
20	. .	. .	. .	7 12.5	4 18.2	77 27 16.9	— 38 33 37.7	85.2		
21	. .	. .	. .	1 6.1	3 3.5	72 22 11.0	33 28 31.8	84.1		
22	. .	. .	. .	2 42.9	1 35.5	58 19 5.2	19 25 26.0	80.3		Close double.
23	. .	. .	. .	42.0	2 28.1	68 22 0.4	29 28 21.2	83.8		
24	30.338	50.5	46.7	1 18.2	1 11.6	50 25 8.2	— 11 31 29.0	78.8		
25	. .	. .	. .	54.2	44.8	37 5 6.6	+ 1 48 32.6			
26	30.352	49.2	44.4	25.6	44.0	36 25 34.3	+ 2 28 4.9	75.5		
27										
28	30.354	47.0	40.9	4 35.7	53.3	41 36 28.6	— 2 42 49.4	70.8		Image swinging. Through clouds.
29	30.458	44.5	46.5	1 40.8	57.7	46 9 31.3	7 15 52.1		D.	Cor. for defective illumination = — 0″.09.
30	. .	. .	. .	— 1 7.1	1 20.5	55 55 26.8	— 17 18 1.4			Disk quite indistinct.
31	30.449	47.3	47.3	+ 1 18.2	1 22.3	56 27 54.4				
32										
33	30.500	43.5	38.6	+ 1 9.6	48.0	38 22 11.3	+ 0 31 27.9	73.8		
34	30.514	42.5	37.9	— 2 32.0	1 28.1	55 29 11.7	— 16 35 32.5	80.1		Barometer recorded, 32.514.
35	. .	. .	. .	1 21.2	1 13.4	50 25 3.6	11 31 24.4	78.9		
36	. .	. .	. .	34.9	1 9.7	48 55 46.4	— 10 2 7.2	78.6		
37	. .	. .	. .	1 43.8	36.3	30 49 4.0	+ 8 4 35.2	74.0		
38	. .	. .	. .	— 1 53.9	36.3	30 48 53.9	+ 8 4 45.3	74.0		
39	. .	. .	37.0	+ 1 37.7	2 39.7	69 19 30.5	— 30 25 51.3	84.3		
40	. .	. .	. .	— 57.5	1 50.6	61 16 5.6	— 22 22 26.4	82.1		Whole rev. recorded, 32.
41	. .	. .	. .	+ 7.4	37.3	31 30 56.5	+ 7 22 42.7	74.5		
42	. .	. .	. .	— 27.6	45.9	37 5 30.0	1 48 9.2			
43	. .	. .	. .	— 24.5	45.0	36 25 32.1	2 28 7.1	75.5		Very steady.
44	. .	. .	. .	+ 51.4	42.2	34 41 45.7	4 11 53.5	75.1		
45	. .	. .	. .	— 3 58.0	42.1	34 36 56.2	4 16 43.0	74.9		
46	. .	. .	. .	— 28.2	38.1	32 0 22.5	+ 6 53 16.7	74.3		
47	. .	. .	. .	+ 35.7	59.8	44 26 49.7	— 5 33 10.5	76.6		Mic. E recorded 6″.0.
48	30.532	41.0	35.7	— 1 54.4	34.3	29 18 50.4	+ 9 34 48.8	73.2		
49	. .	. .	. .	27.8	22.8	20 25 6.5	18 28 32.7	71.0		
50	. .	. .	. .	4 44.8	22.7	20 20 49.4	18 32 49.8	70.9		
51	30.532	40.7	35.1	2 23.7	48.1	38 13 34.9	+ 0 40 4.3	73.4		
52	30.640	36.5	32.9	3 50.9	1 1.2	46 37 22.5	— 7 43 43.3		R.	Cor. for defective illumination = — 0″.08.
53	30.543	33.5	28.4	4.2	46.7	37 5 55.8	+ 1 47 43.4			
54	. .	. .	. .	6 2.8	2 4.4	63 36 13.5	— 24 42 34.3	80.8		Whole rev. recorded, 36.
55	. .	. .	. .	5 50.9	2 4.4	63 36 25.4	24 42 46.2	80.8		Whole rev. recorded, 35. Also assumed error
56	30.544	33.5	28.0	57.3	53.1	40 35 5.8	1 41 26.6	75.2		of —1m. in recorded R. A.
57	. .	. .	. .	3 56.8	1 3.2	45 32 19.0	6 38 39.8	75.3		
58	. .	. .	. .	— 3 43.0	54.6	41 22 25.0	2 28 45.8	+ 73.8		
59										
60	30.195	39.5	41.0	+ 1 20.7	1 0.9	47 32 34.3	8 38 55.1		D.	Cor. for defective illumination = — 0″.08.
61	. .	. .	. .	+ 7.5	1 24.0	57 16 43.9	18 6 52.0			
62	30.144	42.3	48.1	— 2 15.5	1 22.2	56 44 18.6				
63	30.122	44.0	52.2	— 8.8	+ 1 42.2	61 41 45.7	— 22 48 6.5			Faint, blurred, and unsteady.
64										

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Nov. 13	1	Lacaille 9331		2	V, VI.	155 15 7.3	11.3					8.58	35.202	+ 0.447	35.650
	2	B. A. C. 8129		3	III–VII.	135 30 0.9	5.9					2.63	27.868		28.316
	3	B. A. C. 8172		3	IV–VI.	165 10 7.2	13.0					9.82	35.510		35.959
	4	β Sculptoris		3	IV–VI.	167 25 6.8	11.1					8.65	33.652		34.103
	5	i^3 Aquarii		4	III–IX.	148 20 6.0	9.3					6.95	34.666		35.120
	6	σ Cassiopeæ		5	V–IX.	73 55 6.6	11.0					9.80	33.564		33.986
	7	O. Arg. N. 26423		3	V–IX.	75 50 6.4	10.5	13.9	17.2	15.0	5.0	11.33	28.965	+ 0.428	29.365
	8	Weisse O, 287		3	I–V.	126 15 6.0	10.9					7 44	29.972	+ 0.447	30.418
	9	Groombridge 67		3	1–5.	43 20 5.9	10.1					8.67	30.378		30.824
	10	Neptune		4	II–VIII.	127 5 6.3	11.1	9.1	4.9	10.8	1.7	7.27	27.800	+ 0.428	28.227
	11	Anon. 0h. 38m. 2s.		4	III–IX.	126 25 6.0	11.3	9.0	5.0	10.7	0.7	7.12	30.111		30.538
	12	Anon. 0h. 42m. 49s.		1	V.	125 20 6.8	12.7	11.8	6.4	12.2	7.7	9.60	30.507		30.935
	13	Piazzi O, 256		5	I–IX.	121 35 7.3	13.0	10.9	8.0	12.1	2.0	8.88	31.370		31.795
	14	Weisse O, 997		3	VII–IX.	120 0 7.4	11.9	10.1	5.9	12.9	2.0	8.37	27.906		28.333
	15	Weisse I, 55		5	I–IX.	117 20 7.9	12.9		6.8	11.1	3.6	8.81	32.175		32.598
	16	Venus, mean of limbs.		3	III–VII.	138 0 7.1	16.0	14.4	12.9	11.9	2.3	10.77	32.001		32.431
14	17	Sun N. L.		3	IV–VI.	147 0 7.0	14.0	12.3	10.7	11.8	3.0	9.80	32.514		32.943
	18	Sun S. L.		1	IX.	147 30 7.0	13.6	13.0	10.3	9.8	2.0	9.28	27.943		28.406
	19	Mercury		2	VII, IX.	152 0 8.0	15.1	14.1	13.2	12.5	4.9	11.30	27.884		28.345
	20	c^1 Aquarii		1	IX.	153 25 9.3	13.8					10.99	39.897	+ 0.447	40.366
	21	B. A. C. 8129		1	V.	135 35 8.1	13.9					10.23	37.691		38.139
	22	Weisse XXIII, 443		1	IV.	128 35 7.0	10.9					7.73	37.867		38.314
	23	Weisse XXIII, 449		1	IX.	" " "	"					"	44.681		45.128
	24	26 Piscium		1	V.	122 35 9.7	14.9					11.56	33.090		33.537
	25	Neptune		3	V–IX.	127 5 10.0	15.9	14.6	10.2	13.9	4.5	11.52	27.181	+ 0.428	27.609
	26	Anon. 0h. 38m. 2s.		3	III–VII.	126 25 11.5	16.6	16.0	11.0	15.9	4.0	12.50	30.277		30.704
	27	Nadir 0h. 50m.		4		270 0 8.6	12.0	12.3	9.6	11.6	5.0	9.85	29.881		
15	28	Venus, mean of limbs.		3	III–VII.	138 55 9.0	17.2	15.9	14.7	14.1	3.7	12.43	33.737		34.167
16	29	Sun N. L.		4	I–IV.	147 30 10.3	15.9	15.8	13.8	11.8	5.0	12.10	32.060		32.484
	30	Sun S. L.		4	VI–IX.	148 0 7.9	14.0	13.6	12.0	9.7	2.9	10.02	27.247		27.695
	31	Mercury		3	III–VII.	152 40 8.9	15.9	15.2	13.6	12.9	6.1	12.10	30.833		31 265
24	32	Sun N. L.		3	II–IV.	149 14 66.9	72.9	74.0	73.6	68.2	58.5	69.02	27.733	+ 0.413	28.144
	33	Sun S. L.		4	VI–IX.	149 45 8.5	14.5	14.8	14.8	9.5	0.8	10.48	23.081		23.513
	34	Mercury		3	VII–IX.	154 20 7.8	13.2	14.0	12.0	9.1	0.0	9.35	24.535		24.971
	35	Moon S. L.		5	I–IX.	141 5 7.3	10.0	11.6	9.0	8.2	0.1	7.70	33.538		33.956
	36	Lacaille 8834		1	V.	155 10 8.8	11.9					9.63	31.225	+ 0.428	31.653
	37	Lacaille 8849		1	V.	159 10 1.9	5.1					2.93	32.545		32.973
	38	Lacaille 8890	5.5	1	V.	154 35 1.7	5.8					3.10	31.308		31.736
	39	Lacaille 8907	7.0	1	V.	157 35 1.0	4.2					1.84	28.249		28.677
	40	Lacaille 8934	6.7	1	V.	156 55 1.1	4.7					2.10	33.608		34.036
	41	B. A. C. 7632	3.5	3	IV–VI.	166 45 2.0	6.0					3.72	33.817		34.248
	42	Lacaille 8981	7.2	1	V.	158 35 1.5	5.8					3.00	33.696		34.124
	43	Lacaille 9012	6.5	1	V.	157 55 2.0	6.0					3.27	27.219		27.647
	44	B. A. C. 7702	3.0:	1	VIII.	163 29 62.2	66.0	69.2	64.0	64.8	55.1	63.55	25.529	+ 0.413	25.962
	45	Lacaille 9036	4.0	1	V.	" " "	"	"	"	"	"	"	28.255		28.668
	46	Lacaille 9091	8.2	1	V.	166 5 2.1	7.0					4.27	28.454	+ 0.428	28.882
	47	ρ Aquarii		1	V.	137 20 1.5	6.5					3.00	25.742		26.170
	48	53 Aquarii, 1st *	6.0	2	IV, VI.	146 20 0.0	3.2					0.83	34.544		34.973
	49	53 Aquarii, 2d *	6.0	1	V.	" " "	"					"	34.390		34.818
	50	ζ Pegasi, (Ref.)		3	II–VIII.	241 15 5.1	8.0	11.9	8.6	9.1	1.4	7.35	29.791	+ 0.413	30.207
	51	Lacaille 9284	8.3	1	V.	168 30 2.7	5.9					4.06	32.007	+ 0.428	32.435
	52	Lacaille 9301	5.5	1	V.	161 10 2.3	6.2					3.92	26.522		26.950
	53	Lacaille 9307	6.2	1	VI.	" " "	"					"	34.817		35.248
	54	Lacaille 9331	6.0	1	V.	155 15 2.7	6.8					4.03	35.112		35.540
	55	Lacaille 9356	7.0	1	V.	160 0 3.4	7.0					4.76	27.776		28.204
	56	O. Arg. S. 22656	8.2	1	V.	156 30 3.9	8.1					5.20	29.951		30.379
	57	O. Arg. S. 22657	8.8	1	VII.	" " "	"					"	32.706		33.142
	58	Anon. 23h. 7m. 40s.	8.5	3	IV–VI.	168 45 4.5	8.0					6.02	32.832		33.262
	59	Lacaille 9440		3	IV–VI.	" " "	"					"	34.793		35.224
	60	Lacaille 9453	7.2	1	V.	153 0 4.9	8.7					6.08	24.372		24.800
	61	O. Arg. S. 22798	7.5	1	III.	" " "	"					"	31.068		31.503
	62	b^3 Aquarii	5.0	1	V.	150 55 4.0	7.6					5.24	23.200		23.628
	63	Lamont 2822	9.2	1	IX.	130 30 2.4	6.1					3.07	35.780		36.210
	64	Lamont 2823	8.8	1	V.	" " "	"					"	30.878		31.306
	65	Lacaille 9597		1	V.	167 45 2.0	6.0					3.74	32.751		33.179

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	- -	— 2 57.0	+ 2 6.3	65 14 17.8	— 26 20 38.6	+ 78.9	D.	
2	30.054	49.2	46.5	+ 52.8	59.8	45 31 55.2	6 38 16.0	74.7		
3	- -	- -	- -	— 3 6.7	3 37.9	75 10 41.0	36 17 1.8	84.8		
4	- -	- -	- -	2 8.6	4 17.3	77 27 17.3	38 33 38.1	85.9		
5	30.054	49.0	45.1	2 40.5	+ 1 35.2	58 19 1.6	— 19 25 22.4	80.8		Double. Took the brightest. Angle 45°; distance 0r.3.
6	- -	- -	- -	— 2 4.9	— 18.2	343 52 46.7	+ 55 0 52.5	64.3		Circle reading recorded 75°, &c.
7	- -	- -	- -	+ 19.9	— 14.9	345 50 16.3	53 3 22.9	65.3		Mic. D suspiciously large.
8	- -	- -	- -	— 13.1	+ 43.3	36 15 37.6	2 38 1.6	75.8		
9	- -	- -	- -	— 25.8	— 1 2.6	313 18 40.2	85 34 59.0	66.4		
10	- -	- -	- -	+ 55.6	+ 44.5	37 6 47.3	1 46 51.9			
11	- -	- -	- -	— 16.9	43.6	36 25 33.8	2 28 5.4	75.7		
12	- -	- -	- -	29.3	41.9	35 20 22.2	3 33 17.0	75.4		Very faint. Bisection uncertain.
13	- -	- -	- -	— 56.3	36.4	31 34 48.9	7 18 50.3	74.2		[unsteady.
14	- -	- -	- -	+ 52.2	34.2	30 1 34.7	8 52 4.5	73.8		Very unfavorable night. Stars blurred and
15	30.048	48.2	42.7	— 1 21.5	30.6	27 19 17.9	+ 11 34 21.3	72.9		—0″.06 added to mean of A, B, E, F.
16	30.043	43.3	45.9	1 16.2	1 0.9	47 59 55.4	— 9 6 16.2		R.	Cor. for defective illumination = —0″.08.
17	- -	- -	- -	— 1 32.3	1 21.9	56 59 59.4			D.	
18	30.020	46.0	52.3	+ 50.0	1 23.7	57 32 22.9	18 22 31.9			
19	29.996	47.5	56.3	+ 51.9	1 42.4	62 2 45.6	23 9 6.4		R.	Mic. F recorded 14″.9. Cor. for defective illu-
20	29.968	50.2	45.6	— 5 25.0	1 56.4	63 21 42.3	24 28 3.1	79.2		mination = + 0″.05.
21	- -	- -	- -	4 15.1	59.8	45 31 54.9	— 6 38 15.7	74.8		
22	- -	- -	- -	4 20.7	46.8	38 31 33.8	+ 0 22 5.4	73.5		
23	- -	- -	- -	7 54.1	46.7	38 28 0.3	0 25 38.9	73.5		
24	29.972	49.0	44.3	— 1 50.9	37.6	32 33 58.2	6 19 41.0	73.7		
25	29.962	47.0	41.1	+ 1 15.0	44.6	37 7 11.1	1 46 28.1			Very faint.
26	- -	- -	- -	— 22.1	43.7	36 25 34.1	+ 2 28 5.1	75.8		Mic. F recorded 14″.0.
27										Mic. F recorded 15″.0.
28	30.124	47.3	52.1	2 10.6	1 2.3	48 54 4.1	— 10 0 24.9			Cor. for defective illumination = —0″.08.
29	- -	- -	- -	— 1 17.9	1 22.5	57 30 16.7				
30	30.091	50.5	58.8	+ 1 12.3	1 24.4	58 2 46.7	18 52 52.5			Badly defined.
31	30.076	52.0	61.8	— 39.7	1 44.3	62 41 16.7	23 47 37.5			Cor. for defective illumination = + 0″.05.
32	- -	- -	- -	+ 58.2	1 30.8	59 17 38.0			N.	
33	29.966	46.0	47.2	3 23.4	1 32.8	59 50 6.6	20 40 13.1			
34	29.953	49.0	49.3	+ 2 37.6	+ 1 54.7	64 24 41.6	25 31 2.4			
35	29.984	50.0	47.2	— 2 4.0	— 59 0.9	50 4 2.8	11 10 23.6			
36	- -	- -	- -	51.8	+ 2 5.9	65 11 23.7	26 17 44.5	61.8		
37	- -	- -	- -	1 33.2	2 32.7	69 11 2.4	30 17 23.2	64.2		
38	- -	- -	- -	— 54.4	2 2.7	64 36 11.4	25 42 32.2	64.4		
39	- -	- -	- -	+ 41.5	2 21.4	67 38 4.7	28 44 25.5	66.4		
40	- -	- -	- -	— 2 6.5	2 16.7	66 55 12.3	28 1 33.1	67.1		
41	- -	- -	- -	2 13.1	4 3.7	76 46 54.3	37 53 15.1	71.8		
42	- -	- -	- -	— 2 9.3	2 28.4	68 35 22.1	29 41 42.9	70.0		
43	29.991	49.0	46.0	+ 1 13.8	2 24.0	67 58 41.0	29 5 1.8	70.9		
44	- -	- -	- -	2 6.6	3 16.3	73 35 26.4	34 41 47.2	73.5		
45	- -	- -	- -	41.8	3 16.0	73 34 1.3	34 40 22.1	73.8		
46	- -	- -	- -	35.0	3 53.1	76 9 32.3	37 15 53.1	76.4		
47	- -	- -	- -	+ 2 0.0	1 3.8	47 23 6.8	8 29 27.6	67.0		
48	- -	- -	- -	— 2 35.8	1 27.9	56 18 52.9	17 25 13.7	71.3		
49	- -	- -	- -	2 31.0	+ 1 27.9	56 18 57.7	— 17 25 18.5	71.3		
50	29.993	48.0	45.2	6.5	— 32.3	151 14 28.5	+ 10 8 7.8	64.4		
51	- -	- -	- -	— 1 16.3	+ 4 41.3	78 33 29.0	— 39 39 49.8	83.0		
52	- -	- -	- -	+ 1 35.6	2 51.2	71 14 30.7	32 20 51.5	81.2		
53	- -	- -	- -	— 2 44.5	2 50.5	71 10 9.9	32 16 30.7	81.2		
54	- -	- -	- -	— 2 53.7	2 6.9	65 14 17.2	26 20 38.0	79.8		
55	- -	- -	- -	+ 56.3	2 40.5	70 3 41.5	30 10 2.3	81.9		
56	- -	- -	- -	— 11.9	2 14.7	66 32 8.0	27 38 28.8	81.6		
57	- -	- -	- -	1 38.5	2 14.5	66 30 41.2	27 37 2.0	81.6		
58	29.998	47.3	44.5	1 42.2	4 47.5	78 48 11.3	39 54 32.1	86.0		
59	- -	- -	- -	— 2 43.7	4 47.1	78 47 9.4	39 53 30.2	86.4		
60	- -	- -	- -	+ 2 43.0	1 55.5	63 4 44.5	24 11 5.3	81.7		
61	- -	- -	- -	— 47.1	1 55.2	63 1 14.1	24 7 34.9	81.7		
62	- -	- -	- -	+ 3 19.8	1 45.9	61 0 10.9	22 6 31.7	81.8		
63	- -	- -	- -	— 3 14.7	50.2	40 27 38.5	1 33 59.3	75.4		
64	- -	- -	- -	41.0	50.3	40 30 12.3	1 36 33.1	75.4		
65	- -	- -	- -	— 1 39.7	+ 4 24.7	77 47 48.7	— 38 54 9.5	+ 88.2		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Nov. 24	1	Lacaille 9641	..	1	V.	166 55 1.4	6.3	..	..	..	..	3.57	27.411	+ 0.428	27.839
	2	1 Ceti	4.0	1	V.	145 30 1.6	5.8	..	..	..	..	2.91	33.820	..	34.248
	3	Lacaille 9695	6.3	1	VII.	158 20 0.9	5.5	..	..	..	..	2.45	30.565	..	31.001
	4	Weisse XXIII, 1196	..	1	VI.	139 45 1.1	5.9	..	..	..	..	2.39	29.875	..	30.304
	5	Lacaille 9737	..	1	VI.	164 25 1.6	6.6	..	..	..	..	3.72	34.000	..	34.431
	6	B. A. C. 27	..	1	V.	167 25 3.1	7.4	..	..	..	..	4.98	32.430	..	32.859
	7	Lacaille 26	6.5	1	IV.	162 20 3.4	8.0	..	..	..	..	5.42	27.831	..	28.262
	8	B. A. C. 49	5.7	1	VI.	" " "	"	..	..	..	..	"	36.027	..	36.458
	9	Lacaille 49	..	1	V.	159 20 3.0	6.9	..	..	..	..	4.40	35.435	..	35.863
	10	Lacaille 82	6.7	1	V.	151 15 3.1	7.2	..	..	..	..	4.60	30.953	..	31.381
	11	Lacaille 86	7.0	1	V.	" " "	"	..	..	..	..	"	26.313	..	26.741
	12	Neptune	..	3	III-VII.	127 9 63.7	67.7	69.0	65.0	66.0	56.9	64.72	30.187	+ 0.413	30.600
	13	Anon. 0h. 38m. 2s.	..	5	I-IX.	126 24 64.0	68.0	68.8	64.6	65.9	55.6	64.48	30.090	..	30.502
	14	Anon. 0h. 42m. 49s.	9.3	1	V.	125 20 4.0	9.0	..	..	..	..	5.65	30.376	+ 0.428	30.804
	15	Nadir 2h. 50m.	..	6	..	269 59 63.5	67.7	68.9	68.0	65.9	57.5	65.25	29.754	..	..
	16	Psyche	9.0	3	III-VII.	113 14 63.5	69.6	70.4	68.9	65.5	57.6	65.92	31.842	+ 0.413	32.252
	17	Venus, mean of limbs	..	3	III-VII.	142 45 9.1	15.7	17.4	14.6	12.9	2.8	12.08	31.555	+ 0.433	31.990
25	18	Sun S. L.	..	4	I-IV.	150 0 8.6	12.9	14.8	12.5	10.9	0.9	10.10	29.193	..	29.626
	19	Mercury	..	3	III-VII.	154 30 9.1	14.7	14.7	12.0	12.1	2.9	10.92	30.624	..	31.061
	20	Moon S. L.	..	3	III-VII.	137 10 10.0	15.2	15.3	10.6	12.4	3.3	11.13	34.509	..	34.943
	21	Lacaille 9190	..	1	V.	163 5 10.1	14.9	..	..	..	..	12.72	38.828	+ 0.453	39.281
	22	B. A. C. 7944	..	1	V.	167 50 10.2	14.0	..	..	..	..	11.84	39.831	..	40.284
	23	δ Aquarii	..	1	IX.	145 25 9.8	14.9	..	..	..	..	11.56	31.541	..	32.008
	24	Lacaille 9356	..	1	V.	160 5 8.1	12.8	..	..	..	..	10.02	37.451	..	37.904
	25	Lacaille 9388	..	1	IX.	159 10 8.0	13.0	..	..	..	..	9.93	37.230	..	37.711
	26	B. A. C. 8154, 1st *	..	1	V.	138 5 6.2	12.5	..	..	..	..	8.25	31.379	..	31.832
	27	B. A. C. 8154, 2d *	..	1	IX.	" " "	"	..	..	..	..	"	31.426	..	31.887
	28	B. A. C. 8225	..	1	V.	144 45 6.9	12.2	..	..	..	..	8.75	35.146	..	35.599
	29	20 Piscium	..	1	V.	132 25 9.0	14.9	..	..	..	..	11.06	33.639	..	34.092
	30	Lacaille 9705	..	1	VIII.	159 45 9.0	15.3	..	..	..	..	11.67	31.906	..	32.376
	31	B. A. C. 49	..	1	IX.	162 20 9.0	15.8	..	..	..	..	12.12	36.338	..	36.823
	32	Neptune	..	3	III-VII.	127 10 10.0	16.5	16.2	13.4	15.0	5.0	12.68	29.895	+ 0.433	30.328
	33	Anon. 0h. 38m. 2s.	..	3	III-VII.	126 25 10.3	16.8	15.4	12.2	14.7	5.5	12.48	30.268	..	30.701
	34	Nadir 2h. 15m.	..	4	..	270 0 10.1	15.8	14.6	14.8	14.1	5.0	12.40	29.963	..	..
	35	Psyche	..	1	IX.	113 15 10.6	18.0	17.2	17.5	14.0	6.8	14.02	27.488	..	27.924
26	36	Venus, centre	..	5	I-IX.	143 30 9.1	14.7	15.5	14.0	12.0	2.5	11.30	25.859	+ 0.384	26.250
27	37	Sun S. L.	..	4	I-IV.	150 24 64.6	69.2	71.0	69.0	66.4	57.4	66.27	34.375	..	34.759
	38	Sun N. L.	..	4	VI-IX.	149 49 65.8	68.9	70.2	70.0	66.6	59.6	66.85	29.553	..	29.955
	39	ε Cephei	..	4	III,IV,V,VII	72 30 5.2	11.2	12.2	10.1	11.5	2.6	8.80	27.955	..	28.327
	40	Anon. 22h. 16m. 46s.	..	1	V.	167 45 5.5	9.2	..	..	..	..	7.09	34.404	+ 0.412	34.816
	41	Lacaille 9144	..	1	V.	158 15 2.1	6.8	..	..	..	..	3.76	35.790	..	36.202
	42	Lacaille 9167	..	1	VI.	164 40 1.5	6.8	..	..	..	..	3.87	30.086	..	30.501
	43	Weisse XXII, 601	..	1	V.	121 20 2.9	6.4	..	..	..	..	3.79	33.359	..	33.771
	44	Lacaille 9190	..	1	V.	163 0 2.3	7.9	..	..	..	..	4.82	29.053	..	29.465
	45	30 Cephei	..	1	5.	66 0 2.0	5.1	..	..	..	..	4.61	28.959	..	29.367
	46	Lacaille 9244	..	1	V.	162 45 2.2	7.0	..	..	..	..	4.32	31.957	..	32.369
	47	B. A. C. 7944	..	1	V.	167 45 3.5	7.3	..	..	..	..	5.13	30.115	..	30.527
	48	B. A. C. 7998	6.3	3	III-VII.	165 5 4.1	9.0	..	..	..	..	6.27	31.209	..	31.628
	49	β Piscium	3.5	3	III-VII.	125 45 6.7	11.5	..	..	..	..	8.19	26.262	..	26.673
	50	Lacaille 9388	..	1	V.	159 5 3.2	8.9	..	..	..	..	5.46	27.619	..	28.031
	51	Anon. 23h. 8m. 39s.	8.5	3	III-VII.	168 50 1.9	5.8	..	..	..	..	3.62	31.918	..	32.338
	52	B. A. C. 8154, 1st *	8.7	2	I, V.	138 5 2.4	7.4	..	..	..	..	3.80	31.285	..	31.701
	53	B. A. C. 8154, 2d *	8.0	2	III, VII.	" " "	"	..	..	..	..	"	31.300	..	31.714
	54	σ Cassiopeæ	..	1	V.	73 55 1.2	6.8	..	..	..	..	4.90	33.371	..	33.783
	55	Moon S. L.	..	5	I-IX.	127 59 60.5	64.7	64.2	61.1	61.9	53.9	61.05	35.138	+ 0.384	35.522
	56	Weisse O, 41	9.0	1	VIII.	138 55 0.0	5.5	..	..	..	..	1.61	30.205	+ 0.412	30.622
	57	B. A. C. 27	7.8	1	VI.	167 25 1.0	5.8	..	..	..	..	3.13	32.356	..	32.772
	58	Lacaille 26	7.5	1	V.	162 20 2.3	7.0	..	..	..	..	4.37	27.780	..	28.192
	59	B. A. C. 49	6.7	1	VI.	" " "	"	..	..	..	..	"	36.104	..	36.519
	60	ι Sculptoris	3.5	1	V.	158 35 2.4	7.8	..	..	..	..	4.45	30.444	..	30.856
	61	α Phœnicis	..	5	I-IX.	171 50 0.1	2.7	..	..	..	..	1.26	30.923	..	31.359
	62	Groombridge 67	8.0	1	4.	43 20 2.0	6.6	..	..	..	..	4.97	30.322	..	30.733
	63	Neptune	..	5	I-IX.	127 9 62.0	66.7	66.4	63.4	64.0	55.3	62.97	28.673	+ 0.384	29.056
	64	Anon. 0h. 38m. 2s.	7.7	3	III-VII.	126 24 62.0	66.1	66.5	62.7	63.4	54.3	62.50	29.965	..	30.349
	65	Anon. 0h. 42m. 49s.	9.2	1	V.	125 20 2.1	7.5	..	..	..	..	3.95	30.339	+ 0.412	30.751

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	+ 1 7.7	+ 4 9.2	77 0 20.4	— 38 6 41.2	+ 88.3	N.	
2	. .	. .	. .	— 2 13.1	1 25.6	55 29 15.4	16 35 36.2	81.7		
3	. .	. .	. .	31.4	2 27.5	68 21 58.5	29 28 19.3	85.9		
4	. .	. .	. .	9.5	1 9.6	49 46 2.4	10 52 23.2	80.1		
5	29.995	46.2	43.5	2 18.9	3 28.2	74 26 13.0	35 32 33.8	87.9		
6	. .	. .	. .	— 1 29.6	4 18.3	77 27 53.6	38 34 14.4	88.8		
7	. .	. .	. .	+ 54.5	3 3.7	72 24 3.6	33 30 24.4	87.4		
8	. .	. .	. .	— 3 22.4	3 2.9	72 19 45.9	33 26 6.7	87.3		
9	. .	. .	. .	3 3.8	2 35.0	69 19 35.6	30 25 56.4	86.4		
10	. .	. .	. .	— 43.3	1 47.3	61 16 8.6	22 22 29.4	84.0		
11	. .	. .	. .	+ 1 42.1	1 47.5	61 18 34.2	— 22 24 55.0	84.0		
12	29.995	45.5	42.5	— 18.8	44.6	37 10 30.5	+ 1 43 8.7			
13	. .	. .	. .	15.7	43.7	36 25 32.4	2 28 6.8	76.3		
14	. .	. .	. .	25.2	42.0	35 20 22.4	3 33 16.8	75.9		
15										
16	. .	. .	. .	1 10.6	25.6	23 14 20.9	+ 15 39 18.3			
17	30.020	45.5	45.2	— 1 2.4	+ 1 12.8	52 45 22.4	— 13 51 43.2		R.	Very unsteady. Cor. for def. ill. = — 0″.06.
18	29.988	49.0	48.8	+ 11.7	— 14 41.8	59 45 40.0	20 52 0.8			Very badly defined.
19	29.971	51.0	49.7	— 33.3	+ 1 55.2	64 31 32.8	25 37 53.6			Unsteady. Cor. for def. illumination = + 0″.07.
20	29.970	50.2	45.6	2 35.0	— 57 18.1	46 10 18.0	7 16 38.8			
21	. .	. .	. .	4 51.0	+ 3 10.1	73 3 31.8	34 9 52.6	79.1		
22	. .	. .	. .	5 22.4	4 24.7	77 49 14.1	38 55 34.9	82.2		
23	. .	. .	. .	1 3.0	1 25.2	55 25 33.7	16 31 54.5	75.8		
24	. .	. .	. .	4 7.8	2 40.7	70 3 42.9	31 10 3.7	82.0		
25	. .	. .	. .	4 1.8	2 33.2	69 8 41.3	30 15 2.1	82.6		
26	. .	. .	. .	57.4	1 5.6	48 5 16.4	9 11 37.2	76.8		
27	29.969	49.0	43.4	59.2	1 5.6	48 5 14.6	9 11 35.4	76.8		
28	. .	. .	. .	2 55.5	1 23.3	54 43 36.5	15 49 57.3	80.3		
29	. .	. .	. .	2 8.3	53.9	42 23 56.6	3 30 17.4	76.9		
30	29.975	48.0	41.5	1 14.5	2 39.1	69 46 36.2	30 52 57.0	86.6		
31	. .	. .	. .	3 33.9	3 3.4	72 19 41.6	— 33 26 2.4	87.5		
32	29.968	47.0	40.1	10.3	44.8	37 10 47.1	+ 1 42 52.1			
33	. .	. .	. .	— 22.0	43.8	36 25 34.2	2 28 5.0	76.4		
34										
35	29.974	44.5	37.5	+ 1 5.1	25.7	23 16 44.8	+ 15 36 54.4			Very faint.
36	30.012	45.0	45.8	+ 1 57.6	1 14.9	53 33 23.8	— 14 39 44.6		N.	Cor. for defective illumination = — 0″.06.
37	. .	. .	. .	— 2 29.2	1 34.9	60 24 11.9 }	— 21 14 17.2			Very much blurred.
38	29.977	47.7	48.4	+ 1.4	+ 1 32.7	59 51 40.9 }				
39	30.024	47.5	43.1	+ 52.5	— 18.6	342 30 42.7	+ 56 22 56.5	48.4		
40	. .	. .	. .	— 2 31.0	+ 4 25.3	77 47 1.3	— 38 53 22.1	78.4		
41				3 14.7	2 26.8	68 14 15.8	29 20 36.6	76.2		
42	. .	. .	. .	15.7	3 32.5	74 43 20.6	— 35 49 41.4	79.0		
43	. .	. .	. .	— 1 58.2	36.0	31 18 41.5	+ 7 34 57.7	64.6		
44	. .	. .	. .	+ 16.8	+ 3 11.2	73 3 32.8	— 34 9 53.6	79.3		
45	. .	. .	. .	+ 19.8	— 26.3	335 59 58.1	+ 62 53 41.1	51.8		
46	. .	. .	. .	— 1 14.3	+ 3 8.1	72 46 58.1	— 33 53 18.9	80.7		
47	. .	. .	. .	16.5	4 26.1	77 49 14.7	38 55 35.5	82.4		
48	30.028	46.0	43.0	— 51.0	3 38.4	75 7 53.6	— 36 14 14.4	83.3		
49	. .	. .	. .	+ 1 44.3	42.6	35 47 35.0	+ 3 6 4.2	70.3		
50	. .	. .	. .	+ 1 1.7	2 33.9	69 8 41.0	— 30 15 1.6	82.8		
51	. .	. .	42.9	— 1 13.3	4 51.1	78 53 41.4	40 0 2.2	86.5		
52	. .	. .	. .	53.3	1 5.8	48 5 16.3	9 11 37.1	77.0		
53	. .	. .	. .	53.7	+ 1 5.8	48 5 15.9	— 9 11 36.7	77.0		
54	30.054	45.0	44.0	1 58.6	— 17.1	343 52 49.2	+ 55 0 50.0	62.5		
55	. .	. .	. .	2 53.1	— 51 58.7	37 5 9.2	+ 1 48 30.0			
56	. .	. .	. .	19.5	+ 1 7.8	48 55 49.9	— 10 2 10.7	80.4		
57	. .	. .	. .	— 1 26.9	4 18.9	77 27 55.1	38 34 15.9	89.4		
58	. .	. .	. .	+ 56.7	3 4.0	72 24 5.0	33 20 25.8	87.9		
59	. .	. .	. .	— 3 24.3	3 3.4	72 19 43.4	33 26 4.2	87.9		
60	. .	. .	. .	26.8	2 29.9	68 37 7.5	29 43 28.3	86.8		
61	. .	. .	. .	— 42.6	+ 6 32.4	81 55 51.0	— 43 2 11.8	90.6		
62	. .	. .	. .	— 23.0	— 1 2.8	313 18 39.1	+ 85 35 0.1	62.7		
63	30.071	45.3	42.3	+ 29.6	+ 44.8	37 11 17.3	1 42 21.9			
64	. .	. .	. .	— 10.9	43.8	36 25 35.4	2 28 3.8	76.6		
65	. .	. .	. .	— 23.5	+ 42.1	35 20 22.5	+ 3 33 16.7	+ 76.2		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Nov. 27	1	Weisse O, 804 . .	9.0	1	V	123 40 1.8	7.0	. .	. .	. .	. .	3.70	34.586	+ 0.412	34.998
	2	Lacaille 256 . . .	5.3	1	VI.	157 25 3.2	7.8	. .	. .	. .	. .	4.74	36.339	. .	36.754
	3	Weisse O, 891 . .	8.0	1	VII.	121 55 3.1	8.2	. .	. .	. .	. .	4.86	33.060	. .	33.470
	4	Santini 58 . . .	6.7	1	VII.	120 30 2.2	6.2	. .	. .	. .	. .	3.25	33.026	. .	33.436
	5	Weisse I, 20 . . .	9.5	1	V.	126 35 2.8	6.9	. .	. .	. .	. .	3.74	28.301	. .	28.713
	6	Nadir 1h. 50m. . .	. .	4	. . .	269 59 63.4	67.5	68.3	66.4	65.5	57.0	64.68	29.765	. .	. .
	7	Lacaille 1291 . .	7.5	1	V.	158 55 3.6	8.9	. .	. .	. .	. .	5.64	31.239	. .	31.651
	8	τ^9 Eridani . . .	3.8	1	V.	153 15 3.6	7.7	. .	. .	. .	. .	5.11	28.443	. .	28.855
	9	Psyche	9.0	3	III–VII.	113 19 63.3	68.9	70.0	68.2	64.5	57.7	65.43	27.946	+ 0.384	28.327
	10	o^1 Eridani	3.2	1	VII.	136 5 2.2	9.2	. .	. .	. .	. .	4.89	31.579	+ 0.412	31.993
	11	Weisse IV, 183 . .	7.2	1	V.	110 55 1.8	7.3	. .	. .	. .	. .	3.92	24.305	. .	24.717
	12	B. A. C. 1334 . . .	5.7	1	VI.	152 10 3.3	9.1	. .	. .	. .	. .	5.68	30.109	. .	30.523
	13	Rumker 1176 . .	9.0	1	V.	107 40 3.9	10.5	. .	. .	. .	. .	6.63	30.072	. .	30.484
	14	Anon. 4h. 23m. 6s. .	7.8	1	VI.	155 25 1.9	7.2	. .	. .	. .	. .	3.80	25.780	. .	26.194
	15	Lacaille 1474 . .	6.2	1	V.	" " "	"	. .	. .	. .	. .	"	28.000	. .	28.412
	16	Weisse IV, 620 . .	7.2	1	V.	103 25 1.8	6.9	. .	. .	. .	. .	4.07	27.196	. .	27.608
	17	Weisse (2) IV, 713 .	9.3	1	V.	106 30 1.3	9.0	. .	. .	. .	. .	4.70	32.460	. .	32.872
	18	Weisse (2) IV, 719 .	9.0	1	VI.	" " "	"	. .	. .	. .	. .	"	26.777	. .	27.187
	19	Pallas	7.5	3	III–VII.	160 49 61.3	65.9	70.8	65.2	61.9	52.2	62.88	31.975	+ 0.384	32.365
	20	Venus, mean of limbs.	. .	3	III–VII.	143 54 60.9	69.4	69.0	67.1	64.5	53.0	63.98	28.596	+ 0.429	29.028
28	21	Sun N. L. . . .	. .	4	I–IV.	150 0 11.9	18.8	19.8	19.0	15.4	4.6	14.92	28.906	. .	29.336
	22	Sun S. L.	. .	4	VI–IX.	150 30 12.8	20.0	21.0	19.4	17.5	6.0	16.12	23.897	. .	24.344
	23	Mercury	. .	3	VI, VII, IX.	154 45 8.6	15.6	15.6	13.5	11.7	3.8	11.47	36.359	. .	36.981
	24	Nadir 0h. 30m. . .	. .	4	. . .	270 0 6.9	11.9	12.0	9.9	10.3	1.0	8.67	29.848	. .	. .
	25	Moon S. L. . . .	. .	3	III–VII.	123 15 6.7	13.7	13.3	11.2	10.6	0.3	9.30	34.790	. .	35.218
30	26	Venus, mean of limbs.	. .	3	III–VII.	145 5 10.9	17.0	15.7	12.3	14.8	4.0	12.45	32.528	+ 0.403	32.934
Dec. 1	27	Sun S. L. . . .	. .	3	II–IV.	151 5 8.7	13.8	14.8	11.9	11.8	1.7	10.45	35.023	. .	35.426
	28	Sun N. L. . . .	. .	4	VI–IX.	150 30 7.2	12.3	14.5	10.8	11.2	0.6	9.43	30.150	. .	30.570
	29	12 Andromedæ . . .	6.0:	1	V.	91 25 3.9	10.6	. .	. .	. .	. .	7.30	27.359	+ 0.422	27.781
	30	ν Pegasi	4.7	1	V.	106 15 3.9	11.0	. .	. .	. .	. .	7.00	33.392	. .	33.814
	31	Weisse XXIII, 443 .	9.0	1	V.	128 30 1.6	7.0	. .	. .	. .	. .	3.04	28.142	. .	28.564
	32	Weisse XXIII, 449 .	8.7	1	V.	" " "	"	. .	. .	. .	. .	"	34.968	. .	35.390
	33	Lamont 2822 . .	9.2	1	IX.	130 30 1.6	7.1	. .	. .	. .	. .	3.17	35.728	. .	36.152
	34	Lamont 2823 . .	8.7	1	IX.	" " "	"	. .	. .	. .	. .	"	30.846	. .	31.270
	35	Lacaille 9597 . .	8.0	1	VII.	167 45 1.6	6.0	. .	. .	. .	. .	3.54	32.687	. .	33.121
	36	Lacaille 9641 . .	8.5	1	V.	166 55 1.9	7.2	. .	. .	. .	. .	4.27	27.422	. .	27.844
	37	Weisse XXIII, 1075	9.0	1	V.	128 35 1.2	6.0	. .	. .	. .	. .	2.34	34.993	. .	35.420
	38	Weisse XXIII, 1090	6.8	1	V.	" " "	"	. .	. .	. .	. .	"	32.319	. .	32.741
	39	Lacaille 9705 . .	6.7	1	VI.	159 45 1.9	7.0	. .	. .	. .	. .	3.97	31.636	. .	32.061
	40	Lacaille 9737 . .	8.3	1	V.	164 25 2.4	8.0	. .	. .	. .	. .	4.92	34.012	. .	34.434
	41	B. A. C. 23 . . .	5.3	1	V.	157 25 1.8	6.8	. .	. .	. .	. .	3.54	31.279	. .	31.701
	42	35 Piscium, 1st * . .	. .	1	V.	120 50 1.4	5.9	. .	. .	. .	. .	2.73	32.829	. .	33.251
	43	Weisse O, 196 . .	9.2	1	V.	126 35 0.6	5.1	. .	. .	. .	. .	1.77	33.392	. .	33.814
	44	Weisse O, 212 . .	8.0	1	V.	" " "	"	. .	. .	. .	. .	"	28.770	. .	29.192
	45	Neptune	. .	5	I–IX.	127 9 60.9	66.1	65.1	63.0	64.9	53.9	62.32	27.060	+ 0.403	27.462
	46	Anon. 0h. 38m. 2s. .	8.0	3	V–IX.	126 24 61.1	66.4	65.8	62.1	64.6	53.4	62.23	29.985	. .	30.387
	47	Nadir	. .	4	. . .	269 59 61.4	65.8	66.5	64.2	64.7	56.0	63.10	29.696	. .	. .
	48	Moon N. L. . . .	. .	3	II–IV.	111 44 60.2	67.4	66.7	65.0	63.0	54.9	62.87	23.617	. .	24.095
	49	Moon S. L. . . .	. .	4	VI–IX.	112 19 59.1	65.1	64.6	63.0	62.0	52.6	61.07	26.439	. .	26.738
2	50	Sun S. L. . . .	. .	4	VI–IX.	151 10 9.6	15.0	16.4	13.9	12.1	2.7	11.62	27.618	. .	28.038
	51	Mercury	. .	2	VII, IX.	154 40 10.2	15.5	14.9	12.0	12.0	4.1	11.45	34.623	. .	35.037
4	52	Sun N. L. . . .	. .	4	I–IV.	150 55 8.9	12.9	12.9	11.0	12.2	3.8	10.28	29.364	+ 0.396	29.764
	53	Sun S. L. . . .	. .	4	VI–IX.	151 25 10.0	14.0	14.1	11.1	14.0	4.4	11.27	24.703	. .	25.115
5	54	Sun N. L. . . .	. .	2	III, IV.	151 5 9.4	12.5	14.0	9.8	8.8	4.3	9.80	34.082	. .	34.478
	55	Sun S. L. . . .	. .	2	VI, VII.	151 35 9.8	13.6	15.6	11.4	10.7	5.1	11.03	29.383	. .	29.787
7	56	Venus, mean of limbs	. .	5	I–IX.	147 30 10.3	19.1	19.7	18.8	11.3	2.4	13.60	35.226	+ 0.389	35.624
8	57	Sun S. L. . . .	. .	4	I–IV.	151 55 10.1	17.8	18.8	18.0	11.9	3.0	13.27	29.225	. .	29.619
	58	Sun N. L. . . .	. .	4	VI–IX.	151 25 11.3	19.0	19.8	19.0	13.2	3.2	14.25	34.039	. .	34.443
	59	Mercury, app. centre	. .	5	I–IX.	153 50 11.0	17.2	19.0	17.6	11.0	2.9	13.12	29.478	. .	29.879
	60	Neptune	. .	3	IV–VI.	127 10 11.0	19.0	17.0	19.1	13.3	4.1	13.92	25.630	. .	26.019
	61	Anon. 0h. 38m. 2s. .	. .	3	V–IX.	126 25 10.7	19.0	17.5	19.2	12.3	3.3	13.67	30.377	. .	30.765
	62	Weisse O, 787 . .	. .	1	IX.	123 0 10.7	19.6	. .	. .	. .	. .	14.45	36.331	+ 0.407	36.738

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870. 0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 2 36.7	+ 39.5	33 38 6.5	+ 5 15 32.7	+ 75.6	N.	
2	. .	. .	. .	3 31.7	2 21.6	67 23 54.6	— 28 30 15.4	85.3		
3	. .	. .	. .	1 48.8	37.0	31 53 53.0	+ 6 59 46.2	74.9		
4	. .	. .	. .	— 1 47.7	35.0	30 28 50.5	8 24 48.7	74.4		
5	. .	. .	. .	+ 40.3	44.2	36 36 28.2	+ 2 17 11.0	75.7		
6										
7	. .	. .	. .	— 51.7	2 33.7	68 56 47.6	— 30 3 8.4	49.5		
8	. .	. .	. .	+ 35.9	1 58.1	63 17 39.1	— 24 23 59.9	48.0		
9	30.110	42.0	39.5	+ 52.4	25.8	23 21 23.6	+ 15 32 15.6			
10	. .	. .	. .	— 1 2.5	1 2.0	46 5 4.3	— 7 11 25.1	43.5		
11	. .	. .	. .	+ 2 45.6	22.9	20 58 12.4	+ 17 55 26.8	41.3		
12	. .	. .	. .	— 16.4	1 52.8	62 11 42.0	— 23 18 2.8	41.9		
13	. .	. .	. .	— 15.2	19.0	17 40 10.4	+ 21 13 28.8	39.7		
14	. .	. .	. .	+ 1 59.3	2 10.3	65 29 13.4	— 26 35 34.2	38.6		
15	. .	. .	. .	49.8	2 10.1	65 28 3.7	— 26 34 24.5	38.3		
16	. .	. .	. .	+ 1 15.0	14.3	13 26 33.3	+ 25 27 5.9	36.3		
17	. .	. .	. .	— 1 30.0	17.7	16 28 52.4	22 24 46.8	35.1		
18	. .	. .	. .	+ 1 28.2	17.8	16 31 50.7	+ 22 21 48.5	34.9		
19	30.118	42.0	38.2	— 1 14.1	2 50.7	70 51 39.4	— 31 58 0.2			
20	30.232	42.5	41.6	+ 30.5	1 17.4	53 56 51.8	15 3 12.6		R.	Faint; through clouds.
21	. .	. .	. .	20.8	1 35.3	60 2 11.0	21 24 51.7			
22	30.214	44.7	43.0	+ 2 57.3	1 37.5	60 34 50.9				Vibrating.
23	30.197	46.5	45.3	— 3 38.8	+ 1 57.0	64 43 29.6	— 25 49 50.4			Very faint. Cor. for defective ill. = + 0″.06.
24										
25	30.160	43.8	34.0	2 43.5	— 48 33.0	32 23 52.8	+ 6 29 46.4			
26	29.687	44.0	44.9	1 32.0	+ 1 18.7	55 4 59.1	— 16 11 19.9			Very unsteady.
27	. .	. .	. .	2 50.1	1 37.3	61 3 57.6			N.	
28	29.701	45.5	45.2	— 17.9	1 35.1	60 31 26.6	— 21 54 2.9			
29	29.783	45.0	39.5	+ 1 9.5	1.5	1 26 18.3	+ 37 27 20.9	62.2		
30	. .	. .	. .	— 1 59.5	17.2	16 13 24.7	22 40 14.5	66.8		
31	. .	. .	. .	+ 45.0	47.1	38 31 35.1	0 22 4.1	74.5		
32	. .	. .	. .	— 2 49.0	47.0	38 28 1.0	+ 0 25 38.2	74.6		
33	. .	. .	. .	3 12.8	50.5	40 27 40.8	— 1 34 1.6	76.0		
34	. .	. .	. .	39.8	50.6	40 30 13.9	1 36 34.7	76.0		
35	29.788	43.7	37.9	— 1 37.8	4 26.4	77 47 52.1	38 54 12.9	89.2		
36	. .	. .	. .	+ 1 7.6	4 10.7	77 0 22.5	— 38 6 43.3	89.3		
37	. .	. .	. .	— 2 49.9	47.3	38 32 59.7	+ 0 20 39.5	76.8		
38	. .	. .	. .	1 25.9	47.3	38 34 23.7	+ 0 19 15.5	76.9		
39	. .	. .	. .	1 4.6	2 39.7	69 46 39.0	— 30 52 59.8	87.2		
40	. .	. .	. .	2 19.0	3 29.8	74 26 15.7	35 32 36.5	89.0		
41	. .	. .	. .	53.3	2 22.1	67 26 32.3	— 28 32 53.1	86.9		
42	. .	. .	. .	1 41.9	35.5	30 48 56.3	+ 3 4 42.9	74.9		
43	. .	. .	. .	— 1 59.5	44.2	36 33 46.4	2 19 52.8	76.9		
44	. .	. .	. .	+ 25.3	44.2	36 36 11.2	2 17 28.0	76.9		
45	29.806	41.3	34.8	+ 1 19.5	45.1	37 12 6.9	1 41 32.3			
46	. .	. .	. .	— 12.1	+ 44.1	36 25 34.2	2 28 5.0	76.9		
47										
48	. .	. .	. .	+ 3 5.1	— 21 58.2	21 26 9.7				Cor. for defective illumination = — 3″.84.
49	29.896	39.5	32.2	1 42.2	22 26.7	21 59 16.5	+ 17 10 56.1			
50	29.921	45.5	48.0	+ 1 1.5	— 14 38.0	60 56 35.1	— 22 2 55.9		R.	
51	29.872	49.0	53.3	— 2 37.9	+ 1 53.8	64 39 27.3	25 45 48.1			Exceedingly faint. Cor. for def. ill. = + 0″.05.
52	. .	. .	. .	+ 7.4	1 34.8	60 56 52.4			N.	
53	30.086	54.3	61.4	+ 2 33.1	1 37.1	61 29 21.4	22 19 27.7			
54	. .	. .	. .	— 2 20.4	1 37.7	61 4 27.1			R.	Through clouds.
55	30.254	56.0	52.6	+ 6.7	1 40.0	61 36 57.7	22 27 3.2			Microscope F recorded 14″.9.
56	30.332	38.5	32.8	— 2 56.3	1 30.8	57 28 48.1	18 35 8.9		D.	Unsteady and blurred.
57	. .	. .	. .	+ 12.0	1 45.9	61 57 11.1				
58	30.319	42.0	34.1	— 2 19.3	1 43.4	61 24 38.3	22 47 15.5			
59	30.310	44.5	36.5	+ 3.8	1 54.4	63 52 11.3	— 24 58 32.1			Cor. for defective illumination = + 0″.04.
60	30.350	37.0	29.9	+ 2 4.8	46.5	37 13 5.2	+ 1 40 34.0			
61	. .	. .	. .	— 24.0	45.3	36 25 34.9	2 28 4.3	77.3		
62	. .	. .	. .	— 3 31.0	+ 39.8	32 57 23.2	+ 5 56 16.0	+ 76.0		Faint and uncertain.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'd.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Dec. 8	1	Weisse O, 925		1	VII.	120 55 10.3	18.8	. .	. .	. .	. .	13.64	31.538	+ 0.407	31.943
	2	Weisse I, 39		3	III–VII.	119 20 10.8	19.3	. .	. .	. .	. .	14.01	33.275	. .	33.681
	3	40 Ceti		3	III–VII.	131 55 11.0	20.0	. .	. .	. .	. .	14.53	36.449	. .	36.857
	4	δ Cassiopeæ		3	IV–VI.	69 25 11.4	22.4	. .	. .	. .	. .	18.13	36.806	. .	37.208
	5	Lacaille 435		3	IV–VI.	157 15 11.1	20.7	. .	. .	. .	. .	15.12	30.076	. .	30.481
	6	Weisse I, 508		3	III–VII.	127 0 11.1	21.3	. .	. .	. .	. .	15.02	32.029	. .	32.436
	7	Weisse I, 511	7.0	2	VII, IX.	" " "	"	. .	. .	. .	. .	"	32.601	. .	33.007
	8	Lacaille 527		2	VII, IX.	155 45 10.8	20.3	. .	. .	. .	. .	14.77	26.498	. .	26.921
	9	Weisse II, 437		3	III–VII.	135 25 10.5	22.0	. .	. .	. .	. .	15.48	23.407	. .	23.815
	10	41 Arietis		3	III–VII.	102 10 11.2	22.6	. .	. .	. .	. .	16.60	28.173	. .	28.575
	11	Nadir 4h.		5	. .	269 59 62.4	71.0	69.7	73.1	64.5	56.8	66.25	29.810	. .	. .
13	12	Venus		3	III–VII.	149 10 4.6	5.1	5.8	3.9	1.2	0.6	3.53	28.125	+ 0.499	28.628
14	13	Sun S. L.		4	I–IV.	152 25 5.5	6.1	8.4	6.0	2.8	5.1	5.65	32.318	. .	32.824
	14	Sun N. L.		4	VI–IX.	151 55 7.0	7.8	8.6	6.5	3.8	5.7	6.57	37.393	. .	37.905
	15	B. A. C. 23		1	V.	157 30 4.5	8.0	. .	. .	. .	. .	5.49	41.094	+ 0.529	41.623
	16	Lacaille 46		1	IX.	165 30 6.1	10.7	. .	. .	. .	. .	8.12	32.283	. .	32.849
	17	Lacaille 121		1	V.	155 0 6.9	10.9	. .	. .	. .	. .	8.20	34.674	. .	35.203
	18	Neptune		3	III–VII.	127 15 5.9	8.8	9.0	9.6	2.1	3.2	6.43	34.291	+ 0.499	34.790
	19	Anon. 0h. 38m. 2s.		2	VI, IX.	126 25 4.5	8.6	7.9	7.6	0.7	0.9	5.03	30.028	. .	30.526
	20	Lacaille 301		1	VI.	156 35 5.0	9.0	. .	. .	. .	. .	6.20	36.024	+ 0.529	36.555
	21	O. Arg. S. 665		1	VI.	155 40 5.2	8.9	. .	. .	. .	. .	6.27	18.265	. .	18.796
	22	Lacaille 452		1	V.	156 55 5.4	9.0	. .	. .	. .	. .	6.47	30.751	. .	31.280
	23	B. A. C. 527		1	V.	161 55 5.2	9.0	. .	. .	. .	. .	6.82	37.659	. .	38.188
	24	Lacaille 527		1	VI.	155 50 5.1	8.5	. .	. .	. .	. .	6.01	35.776	. .	36.307
	25	Lacaille 638		1	V.	157 5 6.9	9.6	. .	. .	. .	. .	7.46	31.917	. .	32.446
	26	Lacaille 711		1	V.	157 20 4.1	8.2	. .	. .	. .	. .	5.38	30.152	. .	30.681
	27	Lacaille 771		1	V.	152 35 3.6	8.0	. .	. .	. .	. .	5.28	34.461	. .	34.990
	28	Lacaille 792		1	IX.	158 10 2.4	6.2	. .	. .	. .	. .	3.60	32.891	. .	33.447
	29	B. A. C. 978		1	V.	157 15 1.6	5.5	. .	. .	. .	. .	2.77	35.126	. .	35.655
	30	12 Eridani		1	VI.	158 20 1.9	6.6	. .	. .	. .	. .	3.57	24.966	. .	25.498
	31	Anon. 3h. 7m. 46s.		1	VIII.	" " "	"	. .	. .	. .	. .	"	39.774	. .	40.319
	32	Anon. 3h. 19m. 57s.		1	VI.	156 40 2.1	6.8	. .	. .	. .	. .	3.65	37.082	. .	37.614
	33	B. A. C. 1073		1	IX.	" " "	"	. .	. .	. .	. .	"	31.935	. .	32.490
	34	Lacaille 1137		1	V.	154 55 2.2	6.1	. .	. .	. .	. .	3.45	32.435	. .	32.964
	35	Psyche		1	V.	113 49 62.0	67.3	66.1	70.5	57.2	59.1	63.70	31.108	+ 0.499	31.607
	36	Nadir 4h. 35m.		3	. .	270 0 8.7	14.1	11.2	17.3	4.8	7.3	10.57	29.838	. .	. .
	37	Pallas		1	V.	162 0 11.1	15.6	16.6	18.6	5.9	7.7	12.58	34.061	. .	34.560
	38	Uranus		3	III–VII.	105 10 10.4	17.6	14.6	20.1	8.0	10.0	13.45	26.505	. .	27.000
	39	Weisse (2) VI, 328		1	IV.	96 55 10.1	16.6	15.0	19.2	7.5	9.0	12.90	32.851	. .	33.347
	40	Eunomia		1	VIII.	" " "	"	"	"	"	"	"	32.776	. .	33.262
15	41	Neptune		5	I–IX.	127 15 4.0	9.9	6.0	11.9	0.9	0.3	5.50	34.279	+ 0.468	34.746
	42	Anon. 0h. 38m. 2s.		3	IV–VI.	126 25 5.3	12.0	7.3	12.6	2.6	2.1	6.98	30.174	. .	30.642
	43	Anon. 0h. 42m. 49s.	9.0	1	V.	125 20 5.3	13.2	. .	. .	. .	. .	8.40	30.513	+ 0.496	31.009
	44	Weisse O, 829	8.0	3	V–IX.	122 45 5.1	11.5	. .	. .	. .	. .	7.58	29.214	. .	29.708
	45	Weisse O, 925	9.0	1	V.	120 55 5.9	11.9	. .	. .	. .	. .	7.99	31.265	. .	31.761
	46	Weisse O, 1034		1	IX.	119 40 5.8	11.4	. .	. .	. .	. .	7.58	27.563	. .	28.051
	47	Santini 64		2	VII, IX.	" " "	"	. .	. .	. .	. .	"	26.923	. .	27.414
	48	Nadir 2h. 25m.		3	. .	270 0 6.0	11.7	7.5	15.8	2.5	5.0	8.08	29.790	+ 0.468	. .
	49	Psyche		1	IX.	113 50 6.3	14.4	10.0	17.0	5.0	4.3	9.50	29.819	. .	30.275
	50	Pallas		5	I–IX.	162 0 6.1	14.0	10.7	17.0	3.1	3.2	9.02	35.291	. .	35.775
	51	Uranus		3	III–VII.	105 10 6.1	16.1	13.0	19.4	5.8	5.8	11.03	26.635	. .	27.099
	52	Eunomia		1	V.	97 0 7.0	16.0	13.3	19.0	7.0	6.0	11.38	33.337	. .	33.805
16	53	Sun N. L.		4	I–IV.	152 0 7.0	6.0	10.0	14.0	2.1	5.4	7.42	36.177	. .	36.653
	54	Sun S. L.		4	VI–IX.	152 30 7.9	8.9	10.1	13.5	3.1	5.7	8.20	31.256	. .	31.737
20	55	Venus		3	III–VII.	150 45 9.1	9.3	10.6	7.5	6.8	8.8	8.68	29.389	+ 0.429	29.822
21	56	Sun S. L.		4	I–IV.	152 35 8.4	7.7	9.6	7.2	4.0	8.6	7.58	29.042	. .	29.482
	57	Sun N. L.		4	VI–IX.	152 5 8.6	9.0	9.0	8.6	5.0	8.5	8.12	34.069	. .	34.508
	58	Venus, centre		5	I–IX.	150 55 8.2	14.0	13.0	15.0	6.7	6.7	10.60	27.611	. .	28.050
22	59	Sun N. L.		4	I–IV.	152 5 5.7	11.0	8.7	11.7	3.6	4.4	7.52	34.376	. .	34.816
	60	Sun S. L.		3	VII–IX.	152 35 5.0	10.2	8.9	10.3	2.9	4.0	6.88	29.536	. .	29.980
	61	Neptune		3	III–VII.	127 10 4.8	8.8	5.9	8.0	3.2	4.3	5.83	25.203	. .	25.632
	62	Anon. 0h. 38m. 2s.		3	III–VII.	126 25 5.7	8.0	4.8	7.0	2.2	3.2	5.15	30.086	. .	30.515
	63	Santini 46		5	I–IX.	126 15 6.0	9.1	5.4	7.4	3.0	4.0	5.82	32.847	. .	33.275

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1870.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	. .	— 1 0.9	+ 36.8	30 54 49.5	+ 7 58 49.7	+ 75.1	D.	
2	. .	. .	. .	1 55.4	34.5	29 18 53.1	+ 9 34 46.1	74.1		
3	. .	. .	. .	3 34.9	+ 55.1	41 52 34.7	— 2 58 55.5	77.7		Unsteady and blurred.
4	30.356	36.0	29.5	3 45.9	— 23.2	339 21 9.0	+ 59 32 30.2	62.1		
5	. .	. .	. .	15.1	+ 2 25.9	67 17 25.9	— 28 23 46.7	83.9		
6	. .	. .	. .	1 16.3	46.3	36 59 45.0	+ 1 53 54.2	74.5		
7	. .	. .	. .	— 1 34.2	46.3	36 59 27.1	+ 1 54 12.1	74.5		
8	30.370	36.5	29.3	+ 1 36.5	2 16.1	65 49 7.3	— 26 55 28.1	81.4		
9	30.364	36.2	28.5	3 13.9	1 2.6	45 29 31.9	— 6 35 52.7	68.9		
10	. .	. .	. .	44.7	13.3	12 11 14.6	+ 26 42 24.6	59.2		
11										December 12. Increased reading of A by 5″ and F by 10″.—N.
12	30.261	41.5	32.1	+ 43.0	1 37.3	59 12 23.8	— 20 18 44.6		R.	
13	30.237	42.0	31.8	— 1 28.5	1 48.4	62 25 25.5	23 15 25.8			Badly defined.
14	. .	. .	. .	4 7.8	1 45.8	61 52 44.5				
15	30.285	34.0	24.1	6 4.4	2 28.2	67 26 29.2	28 32 50.0	88.2		
16	. .	. .	. .	1 29.3	3 55.9	75 32 34.7	36 38 55.5	90.9		
17	. .	. .	. .	2 43.1	2 12.4	64 59 37.5	— 26 5 58.3	87.6		
18	30.291	33.0	23.3	2 30.1	47.0	37 13 23.3	+ 1 40 15.9			
19	. .	. .	. .	16.5	45.9	36 25 34.4	+ 2 28 4.8	77.8		
20	. .	. .	22.7	— 3 25.5	2 22.7	66 34 3.4	— 27 40 24.2	87.0		
21	. .	. .	. .	+ 5 51.2	2 17.8	65 48 15.2	26 54 36.0	86.5		
22	30.312	31.3	22.0	— 40.1	2 25.5	66 56 51.8	28 3 12.6	84.6		
23	. .	. .	. .	4 16.6	3 8.5	71 53 58.7	33 0 19.5	84.9		
24	. .	. .	. .	3 17.7	2 18.1	65 49 6.4	26 55 27.2	82.5		
25	. .	. .	. .	1 16.7	2 26.9	67 6 17.6	28 12 38.4	79.9		
26	30.324	30.5	21.0	21.3	2 28.9	67 22 12.9	28 28 33.7	77.5		
27	. .	. .	. .	2 36.4	2 0.0	62 34 28.8	23 40 49.6	74.4		
28	. .	. .	. .	1 48.0	2 35.0	68 10 50.6	29 17 11.4	75.1		
29	. .	. .	. .	— 2 57.3	2 28.4	67 14 33.8	28 20 54.6	67.3		
30	. .	. .	. .	+ 2 21.1	2 37.2	68 25 1.8	29 31 29.6	66.5		Whole rev. recorded, 34.
31	. .	. .	. .	— 5 23.5	2 36.2	68 17 16.2	29 23 37.0	66.1		
32	. .	. .	. .	3 58.7	2 24.2	66 38 29.1	27 44 49.9	62.6		
33	. .	. .	. .	1 18.0	2 24.5	66 41 10.1	27 47 30.9	62.4		
34	. .	. .	19.2	1 32.9	2 13.4	64 55 43.9	— 26 2 4.7	59.7		[At. ther. evidently erroneous.
35	30.327	48.0	19.0	50.4	27.7	23 49 41.0	+ 15 3 58.2			Exceedingly faint. Observation of little value.
36										Violent wind blowing. Image of wires momentarily visible at long intervals.
37	30.352	30.5	17.5	— 2 22.9	3 11.5	72 1 1.1	— 33 7 21.9			
38	. .	. .	. .	+ 1 34.1	17.0	15 12 4.5	+ 23 41 34.7			
39	30.331	27.0	16.7	— 1 44.9	7.7	6 53 35.7	32 0 3.5	6.9		
40	. .	. .	. .	1 42.2	7.7	6 53 38.4	32 0 0.8			
41	. .	. .	17.0	2 28.8	47.7	37 13 24.4	1 40 14.8		D.	
42	. .	. .	. .	20.1	46.5	36 25 33.3	2 28 5.9	77.9		
43	. .	. .	. .	— 31.6	44.7	35 20 21.5	3 33 17.7	77.4		Faint; bisection uncertain.
44	. .	. .	. .	+ 9.2	40.6	32 45 57.3	6 7 41.9	76.4		
45	. .	. .	. .	— 55.2	37.7	30 54 50.4	7 58 48.8	75.6		
46	. .	. .	. .	+ 1 1.1	36.0	29 41 44.6	9 11 54.6	75.0		Faint and uncertain.
47	30.282	22.8	16.7	+ 1 21.1	36.0	29 42 4.6	9 11.34.6	74.9		
48										Image dim and unsteady.
49	30.272	21.3	14.0	— 8.6	28.0	23 50 28.9	+ 15 3 10.3			Faint.
50	30.258	19.0	13.1	— 3 1.0	3 13.1	72 0 21.1	— 33 6 41.9			
51	. .	. .	. .	+ 1 30.9	17.2	15 11 59.1	+ 23 41 40.1			Perhaps observed on wires V–IX; if so, error in reduction to meridian about 0″.2.
52	30.250	18.3	12.0	— 1 59.3	7.8	6 58 19.8	+ 31 55 19.4			
53	. .	. .	. .	3 28.6	1 48.4	61 58 27.2	— 23 21 6.7		R.	The sun had been shining on the circle for some time.
54	30.226	23.0	23.3	— 54.5	1 51.0	62 31 4.7				
55	29.902	42.0	33.0	+ 5.6	1 42.5	60 46 56.7	21 53 17.5			Very unsteady and much blurred.
56	. .	. .	. .	+ 16.2	1 47.8	62 37 11.5	23 27 12.6			
57	29.920	39.5	33.3	— 2 21.3	1 45.3	62 4 32.1				Very badly defined.
58	30.270	28.5	26.5	+ 1 1.1	1 46.2	60 57 57.9	22 4 18.7		D.	
59	. .	. .	. .	— 2 31.0	1 47.4	62 4 23.9	— 23 27 1.5			
60	30.231	31.0	29.2	+ 0.6	1 50.1	62 36 57.5				
61	30.356	32.0	27.2	+ 2 16.9	46.7	37 13 9.4	+ 1 40 29.8			Eye-piece not properly adjusted. Wires and planet blurred.
62	. .	. .	. .	— 16.1	45.6	36 25 34.6	2 28 4.6	78.3		
63	. .	. .	. .	— 1 42.7	+ 45.3	36 14 8.4	+ 2 39 30.8	+ 78.1		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Nadir cor.	Correc'n.
1865.						° ′ ″	″	″	″	″	″	″	r.	r.	r.
Dec. 22	1	Weisse O, 829		5	I-IX.	122 45 6.0	9.1	7.4	10.0	2.6	5.4	6.75	29.210	+ 0.429	29.636
	2	Santini 58		3	III-VII.	120 30 6.3	9.1	6.5	8.7	3.7	4.1	6.40	33.228	. .	33.656
	3	Weisse I, 22		3	III-VII.	118 25 6.4	9.4	5.7	8.0	2.2	5.2	6.15	25.873	. .	26.300
	4	Nadir 1h. 45m.		3		270 0 6.1	10.0	6.0	10.9	4.0	6.8	7.30	29.804	. .	. .
	5	Lacaille 711		3	III-VII.	157 20 5.7	8.4	. .	. .	. .	. .	6.28	30.116	+ 0.456	30.577
	6	B. A. C. 817		3	III-VII.	123 20 5.6	9.0	7.6	8.0	2.4	4.0	6.10	27.945	+ 0.429	28.373
	7	Weisse II, 580		3	VII-IX.	" " "	"	"	"	"	"	"	23.511	. .	23.937
	8	Weisse II, 841	9.0	1	V.	115 30 5.8	10.0	. .	. .	. .	. .	7.13	28.078	+ 0.456	28.534
	9	Weisse III, 56	9.0	1	VIII.	124 0 5.9	9.9	8.1	9.2	3.8	6.2	7.18	34.783	+ 0.429	35.210
	10	Weisse III, 145	9.0	1	IX.	123 30 6.0	10.2	. .	. .	. .	. .	7.40	25.603	+ 0.456	26.054
	11	Weisse III, 316		1	IX.	121 50 6.1	9.5	. .	. .	. .	. .	7.00	26.663	. .	27.113
	12	ϵ Tauri		3	III-VII.	110 0 6.8	11.2	. .	. .	. .	. .	8.34	28.875	. .	29.308
	13	Lacaille 1483		3	III-VII.	152 10 6.6	10.9	. .	. .	. .	. .	8.23	28.232	. .	28.692
	14	54 Eridani		3	IV-VI.	148 50 6.7	9.5	. .	. .	. .	. .	7.42	33.760	. .	34.217
	15	Lacaille 1570		3	III-VII.	156 40 7.0	11.0	. .	. .	. .	. .	8.20	27.830	. .	28.290
	16	Pallas		3	IV-VI.	161 35 5.7	8.4	9.9	12.0	1.7	3.2	6.82	25.193	+ 0.429	25.624
	17	Eunomia		5	I-IX.	97 35 6.0	12.1	9.7	13.9	5.0	6.8	8.92	29.859	. .	30.273
	18	Uranus		5	I-IX.	105 10 6.0	13.0	9.0	14.7	5.3	6.7	9.12	27.270	. .	27.688
	19	Venus		3	III-VII.	151 5 7.1	12.5	9.7	12.6	5.2	6.0	8.85	27.064	+ 0.394	27.462
23	20	Sun S. L.		4	I-IV.	152 35 6.9	11.0	9.6	12.5	4.0	6.0	8.33	30.888	. .	31.294
	21	Sun N. L.		4	VI-IX.	152 5 7.9	11.4	9.5	15.4	5.6	8.1	9.65	35.927	. .	36.339
	22	Lacaille 527		1	V.	155 50 8.0	10.9	. .	. .	. .	. .	8.66	35.933	+ 0.414	36.347
	23	Lacaille 569		1	V.	165 50 7.2	11.5	. .	. .	. .	. .	9.07	41.397	. .	41.811
	24	Lacaille 638		1	V.	157 5 7.7	11.2	. .	. .	. .	. .	8.66	31.917	. .	32.331
	25	O. Arg. S. 1489		1	V.	153 10 9.1	11.1	. .	. .	. .	. .	9.57	36.099	. .	36.513
	26	κ Fornacis		1	IX.	153 20 9.3	12.1	. .	. .	. .	. .	10.15	35.001	. .	35.437
	27	O. Arg. S. 1554		1	V.	" " "	"	. .	. .	. .	. .	"	32.509	. .	32.923
	28	B. A. C. 775		1	IX.	152 5 10.2	14.2	. .	. .	. .	. .	11.68	38.941	. .	39.376
	29	Lacaille 813		1	V.	155 15 10.0	13.9	. .	. .	. .	. .	11.23	37.771	. .	38.185
	30	Lacaille 1239		1	V.	155 20 8.8	13.2	. .	. .	. .	. .	10.27	33.430	. .	33.844
	31	τ^6 Eridani		1	V.	153 15 4.3	6.6	. .	. .	. .	. .	4.91	28.465	. .	28.879
	32	B. A. C. 1293		1	V.	156 55 3.7	5.9	. .	. .	. .	. .	4.00	34.259	. .	34.673
	33	Lacaille 1370		1	IX.	154 15 1.6	5.1	. .	. .	. .	. .	2.73	28.917	. .	29.354
	34	B. A. C. 1355		1	III.	154 55 5.0	9.1	. .	. .	. .	. .	6.36	31.041	. .	31.462
	35	O. Arg. S. 3022		1	IX.	" " "	"	. .	. .	. .	. .	"	32.158	. .	32.596
	36	Lacaille 1483		1	V.	152 10 2.9	6.0	. .	. .	. .	. .	3.93	28.098	. .	28.512
	37	Lacaille 1521		1	V.	154 15 9.2	12.6	. .	. .	. .	. .	10.28	38.212	. .	38.626
	38	54 Eridani		1	V.	148 50 9.6	13.9	. .	. .	. .	. .	11.07	33.868	. .	34.282
	39	Lacaille 1570		1	V.	157 5 9.1	12.9	. .	. .	. .	. .	10.21	33.159	. .	33.573
	40	B. A. C. 1482		1	V.	" " "	"	. .	. .	. .	. .	"	17.864	. .	18.278
	41	Pallas		2	VII, IX.	161 35 9.2	12.2	12.0	14.9	4.5	7.5	10.05	34.597	+ 0.394	35.006
	42	Nadir 5h. 40m.		3		270 0 8.2	10.3	8.6	13.1	4.3	7.7	8.70	29.884	. .	. .
	43	Anon. 6h. 2m. 32s.		1	VII.	97 40 7.6	13.2	10.9	13.4	6.4	8.0	9.92	28.406	. .	28.791
	44	Weisse (2) VI, 12		1		" " "	"	"	"	"	"	"	26.507	. .	26.825
	45	Uranus		3	III-VII.	105 5 8.0	14.1	12.0	14.8	7.9	9.1	10.98	17.776	. .	18.166
28	46	Neptune		3	III-VII.	127 10 7.2	7.0	5.7	4.0	3.9	10.6	6.40	26.881	+ 0.410	27.291
	47	Moon S. L.		3	III-VII.	113 35 6.5	6.5	6.1	5.0	2.0	7.7	5.63	33.703	. .	34.110
	48	Nadir 4h. 35m.		3		270 0 7.7	6.8	6.0	5.9	3.1	9.0	6.42	29.795	. .	. .
	49	Pallas		3	III-VII.	161 0 7.4	6.2	9.5	4.7	1.4	6.5	5.95	28.191	. .	28.607
	50	O. Arg. S. 3662		1	V.	155 25 6.6	6.2	. .	. .	. .	. .	5.66	16.477	+ 0.440	16.917
	51	B. A. C. 1641		1	VII.	163 55 5.0	4.6	. .	. .	. .	. .	4.52	29.416	. .	29.866
	52	o Columbæ		1	VII.	" " "	"	. .	. .	. .	. .	"	35.122	. .	35.572
	53	Lacaille 1840		1	V.	161 15 4.9	4.1	. .	. .	. .	. .	4.18	38.114	. .	38.554
	54	α Leporis		1	V.	146 50 5.0	4.5	. .	. .	. .	. .	3.99	34.494	. .	34.934
	55	Anon. 5h. 27m. 45s.		1	IX.	" " "	"	. .	. .	. .	. .	"	39.074	. .	39.530
	56	α Columbæ		1	V.	163 0 4.5	5.3	. .	. .	. .	. .	4.62	30.791	. .	31.231
	57	Lacaille 1967		1	III.	157 40 5.4	5.0	. .	. .	. .	. .	4.45	15.036	. .	15.484
	58	Lacaille 1990		1	IX.	" " "	"	. .	. .	. .	. .	"	43.520	. .	43.967
	59	Eunomia		1	V.	98 10 6.0	6.4	6.0	4.2	2.9	7.1	5.43	27.264	+ 0.410	27.674
	60	Uranus		3	III-VII.	105 10 5.8	8.2	7.2	6.5	4.7	8.1	6.75	27.697	. .	28.103
	61	Venus, mean of limbs.		5	I-IX.	151 55 9.0	9.0	9.1	9.4	3.3	9.7	8.25	31.117	. .	31.538
29	62	Sun N. L.		4	I-IV.	151 50 8.9	10.0	8.9	8.8	4.0	8.1	8.12	33.608	. .	34.031
	63	Sun S. L.		4	VI-IX.	152 20 9.0	9.0	8.9	10.0	4.9	9.0	8.47	28.720	. .	29.137

Number.	Barometer.	THERM'S. At.	THERM'S. Ex.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Geocentric Zenith Distance.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	in.	°	°	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	- -	+ 11.4	+ 39.8	32 45 57.9	+ 6 7 41.3	+ 76.8	D.	
2	- -	- -	- -	— 1 54.6	36.4	30 28 48.2	8 24 51.0	75.7		
3	30.360	31.2	26.4	+ 1 56.0	33.6	28 27 35.7	+ 10 26 3.5	74.7		
4										
5	30.420	31.7	24.7	— 18.1	2 28.2	67 22 16.3	— 28 28 37.1	78.7		Quite windy. Can obtain only glimpses of an image.
6	- -	- -	- -	+ 51.0	41.0	33 21 38.1	+ 5 32 1.1	66.1		
7	- -	- -	- -	3 10.1	41.1	33 23 57.3	5 29 41.9	65.9		
8	- -	- -	- -	+ 46.0	29.8	25 31 22.9	13 22 16.3	61.1		
9	- -	- -	- -	— 2 43.3	42.1	33 58 5.9	4 55 33.3	60.0		Faint and uncertain.
10	- -	- -	- -	+ 2 3.7	41.4	33 32 52.5	5 20 46.7	58.9		Faint and uncertain.
11	30.450	29.7	22.8	1 30.5	38.9	31 52 16.4	7 1 22.8	56.5		Faint and uncertain.
12	30.470	27.7	22.2	21.1	22.8	20 0 52.2	+ 18 52 47.0	38.7		Barometer and thermometer at 4h. 10m.
13	- -	- -	- -	+ 41.0	1 58.5	62 12 47.7	— 23 19 8.5	43.8		
14	- -	- -	- -	— 2 12.2	1 43.4	58 49 38.6	19 55 59.4	40.2		Whole rev. recorded, 34.
15	30.478	27.3	21.6	+ 53.6	2 24.9	66 43 26.7	27 49 47.5	39.7		
16	30.431	27.0	21.3	+ 2 17.2	3 7.3	71 40 31.3	— 32 46 52.1			
17	- -	- -	- -	— 8.5	8.4	7 35 8.8	+ 31 18 30.4			
18	30.520	26.0	19.7	+ 1 12.5	17.0	15 11 38.6	+ 23 42 0.6			
19	30.659	26.5	23.4	+ 1 19.6	1 49.1	61 8 17.5	— 22 14 38.3		R.	
20	30.638	27.0	26.2	— 40.6	1 52.9	62 36 20.6				Serrated and vibratory.
21	- -	- -	- -	3 18.4	1 50.2	62 3 41.4	23 26 21.8			Serrated and vibratory.
22	30.541	28.5	23.7	3 19.0	2 18.6	65 49 8.2	26 55 29.0	83.6		
23	- -	- -	- -	6 10.3	4 2.5	75 48 1.2	36 54 22.0	85.3		
24	- -	- -	- -	1 13.1	2 27.2	67 6 22.7	28 12 43.5	81.1		
25	- -	- -	- -	3 24.2	2 3.1	63 8 48.4	24 15 9.2	78.1		
26	- -	- -	- -	2 50.5	2 4.0	63 19 23.6	24 25 44.4	77.7		
27	- -	- -	- -	1 31.6	2 4.1	63 20 42.6	24 27 3.4	77.1		
28	- -	- -	- -	4 54.0	1 57.4	62 2 15.0	23 8 35.8	75.9		
29	30.523	28.5	23.5	4 16.7	2 14.8	65 13 9.3	26 19 30.1	75.0		
30	30.504	28.0	23.0	— 2 0.5	2 15.6	65 20 25.3	26 26 46.1	57.8		
31	- -	- -	- -	+ 35.1	2 3.9	63 17 43.9	24 24 4.7	53.9		
32	- -	- -	- -	— 2 26.5	2 25.9	66 55 3.4	28 1 24.2	52.7		
33	- -	- -	- -	+ 20.2	2 9.4	64 17 32.3	25 23 53.1	51.0		
34	- -	- -	- -	— 45.8	2 13.2	64 56 33.7	26 2 54.5	47.3		
35	- -	- -	- -	— 1 21.4	2 13.1	64 55 58.0	26 2 18.8	47.3		
36	- -	- -	- -	+ 46.6	1 58.4	62 12 48.9	23 19 9.7	44.0		
37	- -	- -	- -	— 4 30.4	2 9.0	64 12 48.8	25 19 9.6	42.8		
38	- -	- -	- -	2 14.2	1 43.3	58 49 40.1	19 56 0.9	40.4		
39	- -	- -	- -	— 1 52.0	2 27.2	67 5 45.4	28 12 6.2	39.8		
40	- -	- -	- -	+ 6 7.5	2 28.0	67 13 45.7	28 20 6.5	39.2		
41	30.490	27.5	22.6	— 2 36.9	3 6.1	71 35 39.2	— 32 42 0.0			
42										
43	- -	- -	- -	+ 37.9	8.4	7 40 56.2	+ 31 12 43.0	9.1		
44	- -	- -	- -	1 39.5	8.4	7 41 57.8	31 11 41.4	8.9		Taken at edge of the field.
45	30.428	27.5	23.2	6 11.0	16.9	15 11 38.8	23 42 0.4			
46	30.088	48.0	44.0	+ 1 24.9	+ 44.7	37 12 16.0	1 41 23.2			
47	30.167	46.5	41.8	— 2 8.9	— 39 36.9	22 53 19.8	+ 16 0 19.4			
48										
49	30.197	45.5	39.7	+ 43.7	+ 2 52.5	71 3 42.1	— 32 10 2.9			
50	- -	- -	- -	6 50.1	2 11.0	65 34 6.7	26 40 27.5	33.5		
51	- -	- -	- -	+ 4.2	3 25.2	73 58 33.9	35 4 54.7	30.6		
52	- -	- -	- -	— 2 54.7	3 24.5	73 55 34.3	35 1 55.1	29.9		
53	- -	- -	- -	4 28.2	2 54.2	71 13 30.1	32 19 50.9	26.6		
54	- -	- -	- -	2 34.7	1 31.4	56 49 0.6	17 55 21.4	23.3		
55	- -	- -	- -	4 58.8	1 31.3	56 46 36.4	17 52 57.2	23.0		
56	- -	- -	- -	— 38.6	3 13.8	73 2 39.8	34 9 0.6	21.5		
57	- -	- -	- -	+ 7 35.1	2 26.0	67 50 5.5	28 56 26.3	18.6		
58	30.209	44.0	39.0	— 7 18.5	2 24.2	67 35 10.1	— 28 41 30.9	18.5		
59	- -	- -	- -	+ 1 12.9	8.6	8 11 26.9	+ 30 42 12.3	+ 10.0		
60	30.211	44.0	38.5	+ 59.5	16.2	15 11 22.4	+ 23 42 16.8			
61	30.422	44.0	41.6	— 48.2	1 47.6	61 56 7.6	— 23 2 28.4		D.	
62	- -	- -	- -	— 2 6.4	1 44.0	61 49 45.7				
63	30.407	45.5	41.6	+ 27.0	+ 1 46.5	62 22 21.9	— 23 12 24.6			

OBSERVATIONS

WITH THE

PRIME VERTICAL TRANSIT INSTRUMENT,

1865.

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES. A.	B.	C.	D.	E.	F.	G.	Telescope.	TIMES OF TRANSIT OVER WIRES. G.	F.	E.	D.	C.	B.	A.
1865.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
Jan. 3	1	α Lyræ . . .	E.	S.	18 1 2.5	29.3	0.0	29.7	1.3	34.5	7.7	N.	0.7	38.5	17.0	55.5	. .	13.0	10 51.0
	2		W.	N.	18 59 16.3	53.7	34.3	11.3	49.5	28.7	6.0	S.	58.0	. .	4.0	36.0	4.3	35.3	. . .
4	3	α Lyræ . . .	E.	N.	17 58 36.5	5.0	36.3	5.7	36.3	9.3	39.0	S.	38.0	11.5	50.0	27.3	5.0	40.7	68 26.0
	4		W.	S.	18 56 50.0	28.7	10.0	47.7	26.0	3.5	36.3	N.	37.3	7.0	39.5	10.7	39.5	10.3	66 41.0
10	5	α Lyræ . . .	E.	S.	17 58 44.5	11.7	43.0	12.3	43.0:	16.0	49.3	N.	43.0	20.0	58.7	37.7	14.0	55.0	68 32.5
	6		W.	N.	18 56 55.0	33.0	12.7	50.5	28.3	7.3	44.7	S.	39.0	12.7	45.5	16.7	45.0	16.7	66 43.7
11	7	α Lyræ . . .	E.	N.	17 58 . .	13.5	45.0	13.7	45.3	17.7	47.0	S.	47.5	20.5	57.7	35.7	14.0	54.7	68 34.3
	8		W.	S.	18 56 56.0	37.7	19.0	54.7	34.5	12.0	44.3	N.	45.0	15.0	46.7	18.7	48.0	18.7	66 48.0
12	9	α Lyræ . . .	E.	S.	17 58 48.5	16.0	46.7	16.7	47.5	19.3	53.5	N.	44.5	22.0	1.0	38.7	15.5	56.5	68 33.3
	10		W.	N.	18 57 6.5	43.7	24.3	1.7	39.5	18.0	55.0	S.	44.0:	19.0:	52.0:	23.5	52.5	23.3	66 50.3
15	11	α Lyræ . . .	E.	N.	17 58 59.3	29.0	59.7	29.3	1.3	33.5	2.5	S.	0.3	33.7	12.5	51.0	28.0	8.3	68 48.0
	12		W.	S.	18 57 13.5	53.7	34.5	11.3	49.5	28.0	1.0	N.	0.5	29.5	2.7	32.7	2.5	34.5	67 2.7
19	13	α Lyræ . . .	E.	S.	17 59 4.5	32.3	2.7	33.0	3.0	37.0	10.5	N.	4.7	39.5	19.0	56.0:	34.7	14.0	68 52.0
	14		W.	N.	18 57 28.0	4.7	46.5:	23.3	2.0	39.0	16.5	S.	8.7	42.0	15.7	46.7	16.5	47.0	67 14.0
27	15	α Lyræ . . .	E.	N.	17 59 6.5	35.5	8.0	36.5	8.0	40.5	10.0	S.	5.0	39.0	16.5	55.0	33.5	13.5	68 54.0
	16		W.	S.	18 57 33.0	13.0	53.5	30.0	6.5	47.0	20.0	N.	15.0	44.5	17.0	49.0	17.0	47.5	67 18.0
Feb. 12	17	α Lyræ . . .	E.	S.	17 58 6.0	33.0	4.3	33.5	5.0	38.3	9.7	N.	6.3	43.7	23.0	0.0	37.7	17.5	67 56.0
	18		W.	N.	18 56 . .	12.0	53.0	. .	7.5	45.0	23.3	S.	. .	52.0	24.5	55.5	25.0	55.0	66 22.5
13	19	α Lyræ . . .	E.	N.	17 58 3.3	32.5	3.0	33.3	2.3	34.5	5.0	S.	59.7	32.0	9.5	48.3	25.0	3.5	67 44.0
	20		W.	S.	18 57 . .	19.7	0.7:	37.0:	15.5	51.7	25.0	N.	23.5	52.5	24.0	55.3	26.5	57.0	66 25.3
19	21	α Lyræ . . .	E.	S.	17 58 . .	30.0	0.5	29.5	1.0	33.7	6.3	N.	2.5	38.7	17.5	55.3	33.0	14.0	67 51.0
	22		W.	N.	18 56 32.0	9.0	49.0	26.3	4.3	42.0	19.7	S.	14.0	48.0	21.3	51.0	21.3	51.7	66 18.7
20	23	θ Aurigæ . .	E.	S	4 29 23.8	35.8	47.0:	0.0	12.3	25.3	37.0	N.	45.0	57.5	11.0	24.0	36.3	49.0:	33 1.0
	24		W.	N.	7 7 45.3	. .	10.0	22.8	35.4	48.8	1.8	S.	. .	21.3	33.7	46.5	58.8	11.0	11 22.8
20	25	α Lyræ . . .	E.	N.	17 58 2.7	33.3	3.3	32.5	3.7	35.7	5.7	S.	0.5	33.0	10.0	50.0	26.5	6.3	67 46.7
	26		W.	S.	18 56 36.0	16.3	57.0	33.3	11.5	48.7	22.0	N.	20.3	50.3	21.7	53.3	22.3	53.0	66 22.7
26	27	α Lyræ . . .	E.	S.	17 58 6.7	34.3	4.3	34.0	4.0	37.0	10.0	N.	7.3	44.7	23.0	59.7	37.0	17.2	67 55.3
	28		W.	N.	18 56 40.0	16.7:	58.0	35.5	12.3	51.3	27.7	S.	24.0	57.7	30.5	0.7	30.0	1.0	66 27.7
27	29	μ Aurigæ . .	E.	N.	4 14 58.3	18.4	39.9	59.5	21.0	42.2	1.8	S.	54.4	14.6	37.1	0.2	22.0	46.0	21 8.3
	30		W.	S.	5 47 . .	. .	59.0	19.7	43.2	6.5	26.8	N.	18.3	37.8	59.0	20.7	40.3	1.8	53 21.8
27	31	B. A. C. 1942 .	E.	N.	5 14 57.5	21.0	45.8	8.3	33.3	58.5	21.9	S.	36.1	1.0	28.3	56.2	22.0	51.3	22 20.0
	32		W.	S.	6 32 11.8	41.3	9.7	35.3	3.5	31.3	55.3	N.	9.7	32.4	57.5	21.8	35.7	10.7	39 34.0
Mar. 5	33	α Lyræ . . .	E.	N.	17 58 16.3	45.3	16.0	45.7	17.3	48.7	18.7	S.	13.3	47.0	23.3	2.0	38.7	18.7	67 58.5
	34		W.	S.	18 56 51.3	30.0	11.5	48.7	26.3	4.5	36.5	N.	33.0	2.5	34.7	6.0	34.7	6.0	66 35.3
6	35	α Lyræ . . .	E.	S.	17 58 15.0	42.5	13.0	41.7	13.0	47.3	17.0	N.	15.7	51.3	31.0	8.0	45.7	25.5	68 3.0
	36		W.	N.	18 56 54.3	29.5	12.0	48.3	26.3	5.5	42.0	S.	35.7	8.7	. .	12.5	41.0	12.3	66 39.7
10	37	α Lyræ . . .	E.	N.	17 58 23.5	53.3	22.7	51.5	23.7	55.0	24.3	S.	18.0	50.5	27.5	7.5	43.0	24.5	68 3.5
	38		W.	S.	18 56 . .	37.0	18.5	56.0	34.0	10.0	44.3	N.	. .	10.7	43.5	15.0	43.0	15.0	66 43.7
12	39	α Lyræ . . .	E.	S.	17 58 22.3	49.5	19.7	49.5	20.0	53.0	25.7	N.	21.5	58.5	37.0	14.5	51.7	32.0	68 9.3
	40		W.	N.	18 57 1.3	39.0	19.0	55.7	34.0	12.0	49.3	S.	42.0	15.3	48.7	19.0	48.3	19.0	66 46.0
16	41	α Lyræ . . .	E.	N.	17 58 26.3	56.7	27.3	56.3	27.0	59.0	28.7	S.	26.0	59.0	36.3	15.0	50.5	31.5	68 11.7
	42		W.	S.	18 57 17.7	57.0	37.3	14.0	52.0	28.0	2.5	N.	58.3	27.0	58.7	30.0	59.3	30.3	66 58.5
17	43	α Lyræ . . .	E.	S.	17 58 29.3	56.7	26.5	56.3	27.0	59.0	32.7	N.	26.5	3.5	42.0	19.5	56.0	36.5	68 13.3
	44		W.	N.	18 57 18.3	55.7	35.7	12.3	49.7	28.5	5.5	S.	58.0	30.7	3.3	34.3	4.0	34.0	67 1.3
20	45	α Lyræ . . .	E.	S.	17 55 32.7	0.0	30.3	59.7	30.3	3.5	36.0	N.	29.3	6.0	44.5	21.7	59.0	38.7	68 16.0
	46		W.	N.	18 57 21.3	59.0	39.0	16.0	53.5	32.3	9.0	S.	1.0	33.7	7.0	37.7	7.0	37.7	67 4.7
Apr. 7	47	α Lyræ . . .	E.	N.	17 58 53.3	23.0	54.0	23.3	54.0	26.0	56.0	S.	50.7	24.0	2.0	38.0	15.5	56.0	68 36.0
	48		W.	S.	18 57 42.7	21.7	2.0	39.3	16.7	54.0	26.5	N.	20.0	50.0	21.0	52.3	20.7	52.5	67 22.3
May 7	49	α Lyræ . . .	E.	S.	17 59 28.4	56.5	26.2	55.5	27.0	59.5	33.7	N.	. .	3.2	42.0	19.3	56.8	36.3	69 15.3
	50		W.	N.	18 58 . .	. .	. .	. .	40.3	19.0	55.0	S.	48.5	21.3	54.0	25.5	. .	. .	. . .

No. for reference.	LEVEL READINGS. Before reversal. N.	Before reversal. S.	After reversal. N.	After reversal. S.	Mean, ½ (S.–N.)	Correction for level.	Apparent declination.	Reduction to 1870.0.	Mean declination, 1870.0.	Weight.	Observer.	REMARKS.
	d.	d	d.	d.	d.	″	° ′ ″	″	° ′ ″			
1	38.8	61.5	61.4	39.4	+ 0.18	0.00	+38 39 41.37	+ 9.82	+38 39 51.19	3	N.	
2	63.4	41.7	42.0	63.0	— 0.18					3		
3	67.9	45.8	44.6	69.1	+ 0.60	+ 0.64	41.42	10.11	51.53	2	N.	
4	42.7	67.7	66.2	44.0	+ 0.70					3		
5	42.9	59.5	65.0	37.6	— 2.70	— 2.35	39.92	11.81	51.73	2	N.	
6	64.7	39.0	43.1	60.6	2.05					3		
7	67.3	41.2	45.0	63.3	1.95	1.76	39.27	12.14	51.41	2½	N.	
8	42.6	62.0	65.3	39.4	1.62					1		
9	38.1	57.4	59.1	36.2	0.90	0.88	38.72	12.47	51.19	2	N.	
10	56.6	34.1	35.8	54.8	0.88					2		
11	70.7	43.7	49.2	65.2	2.75	2.64	38.00	13.49	51.49	3	N.	
12	47.3	64.4	69.7	42.2	2.60					2		
13	52.5	75.4	76.5	51.5	0.52	0.49	36.59	14.61	51.20	3	N.	
14	74.2	50.0	50.9	73.2	0.48					2½		
15	72.2	47.9	50.2	70.4	1.02	1.04	34.77	16.88	51.65	3	Ha.	
16	50.8	71.2	73.4	48.6	1.10					2		
17	70.2	34.6	43.7	61.2	4.52	— 3.99	30.39	20.87	51.26	2	N.	
18	42.1	61.8	69.0	35.0	— 3.58					2		
19	43.5	69.4	68.5	44.6	+ 0.50	+ 0.64	30.11	21.09	51.20	3	N.	
20	66.1	43.8	42.1	67.6	+ 0.80					2		
21	59.0	28.7	38.6	49.2	— 4.92	— 4.63	29.37	22.09	51.46	3	N.	
22	38.1	50.3	59.3	29.2	4.48					3		
23	52.8	26.2	34.5	45.0	4.02					2	N.	
24	38.2	51.6	59.2	30.8	3.75	- -	- -	- -	- -	2		
25	40.4	58.8	63.8	35.2	2.55	2.56	28.91	22.27	51.18	4	N.	
26	62.3	35.0	40.2	56.9	2.65					3		
27	50.8	23.7	31.4	43.2	3.82	3.76	28.01	23.39	51.40	5	N.	
28	32.7	44.6	52.2	25.0	3.83					5		
29	24.0	32.7	42.7	26.4	1.90					4	N.	
30	69.2	40.0	49.2	60.2	4.55	- -	- -	- -	- -	3		
31	48.3	58.7	68.1	39.3	4.60					4	N.	
32	70.5	41.0	50.2	61.6	4.52	- -	- -	- -	- -	3		
33	39.6	53.8	61.0	31.3	3.88	3.96	27.14	24.08	51.22	4	N.	
34	61.8	30.8	39.2	53.5	4.17					4		
35	56.9	29.4	35.0	51.4	2.78	2.72	27.10	24.20	51.30	3	N.	
36	34.2	50.4	55.9	28.7	2.75					3		
37	45.6	61.4	68.9	38.3	3.70	3.79	26.27	24.68	50.95	2	N.	
38	59.7	27.7	36.0	52.0	4.00					2		
39	51.8	25.5	32.2	45.2	3.32	— 3.35	26.34	24.86	51.20	4	N.	
40	31.8	44.6	51.5	24.8	— 3.48					4		
41	30.6	51.5	49.9	32.9	+ 0.98	+ 1.13	25.86	24.94	50.80	2	N.	
42	53.2	35.8	33.1	55.8	1.33					3		
43	44.1	27.4	25.4	46.2	1.02	1.08	26.05	24.94	50.99	4	N.	
44	25.1	46.1	43.7	27.4	1.18					4		
45	43.4	26.8	24.6	45.7	1.12	1.23	26.07	25.01	51.08	5	N.	
46	24.9	47.0	44.2	27.6	1.38					5		
47	46.9	65.3	64.0	48.4	0.70	0.55	26.39	24.47	50.86	2	N.	
48	65.0	48.6	47.7	65.8	0.42					3		
49	32.0	54.1	50.2	36.0	1.98	+ 2.06	+38 39 31.57	+ 19.47	+38 39 51.04	4	N.	
50	50.3	36.1	31.8	54.8	+ 2.20					3		

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES. A.	B.	C.	D.	E.	F.	G.	Telescope.	TIMES OF TRANSIT OVER WIRES. G.	F.	E.	D.	C.	B.	A.
1865.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
May 14	1	α Lyræ . . .	E.	S.	17 59 47.5	14.7	46.3	15.3	46.3	19.3	52.0	N.	45.7	21.3	1.3	40.5	18.5	56.0	69 35.0
	2		W.	N.	18 58 20.0	58.5	38.5	17.0	54.7	32.5	8.5	S.	5.0	38.0	10.3	41.5	11.3	42.0	68 10.0
16	3	α Lyræ . . .	E.	N.	17 59 54.8	24.0	54.7	24.0	52.8	27.0	58.3	S.	52.3	26.7	6.7	42.0	18.0	59.3	69 39.5
	4		W.	S.	18 58 27.3	7.7	48.7	25.3	0.3	40.7	15.0	N.	9.5	40.0	14.3	43.5	12.7	44.0	68 13.0
24	5	α Lyræ . . .	E.	S.	18 0 18.0	44.5	16.0	46.0	17.0	49.5	21.0	N.	15.0	52.5	31.0	8.0	46.0	26.0	70 2.0
	6		W.	N.	18 58 48.0	25.5	4.5	44.0	22.0	0.5	35.5	S.	30.0	4.5	36.0	6.0	. .	. .	. . .
30	7	α Lyræ . . .	E.	N.	18 0 25.3	54.5	26.0	54.7	22.5	58.0	30.0	S.	25.3	59.0	40.5	13.5	52.0	32.7	70 13.0
	8		W.	S.	18 58 50.5	30.0	11.3	48.0	22.7	3.7	38.0	N.	33.3	4.0	38.3	6.5	37.3	7.7	68 37.0
31	9	α Lyræ . . .	E.	S.	18 0 28.0	55.5	25.0	54.5	27.0	58.5	31.5	N.	26.0	4.0	41.5	19.5	57.0	36.5	70 15.0
	10		W.	N.	18 58 51.0	29.0	10.0	47.5	26.5	4.0	42.0	S.	36.0	8.0	43.0	11.0	42.0	13.0	68 13.0
June 2	11	α Lyræ . . .	E.	N.	18 0 29.3	0.0	31.0	0.0	29.5	4.0	34.3	S.	30.3	5.0	44.7	20.5	58.0	38.7	70 18.3
	12		W.	S.	18 58 55.0	35.0	16.0	53.0	28.3	9.0	42.5	N.	38.3	8.0	42.5	11.5	41.3	12.3	68 42.0
7	13	α Lyræ . . .	E.	S.	18 0 15.0	46.5	16.5	46.0	16.5	47.5	17.0	N.	19.5	53.0	31.0	12.0	49.5	31.5	71 12.5
	14		W.	N.	18 58 25.5	6.0	48.5	26.0	6.0	44.5	18.0	S.	20.5	48.5	. .	51.0	20.5	51.5	69 19.5
9	15	α Lyræ . . .	E.	N.	18 0 . .	49.5	20.5	50.0	20.3	51.5	21.7	S.	23.3	. .	35.3	14.7	51.5	34.7	71 16.5
	16		W.	S.	18 58 . .	. .	52.5	30.3	9.3	48.0	22.3	N.	23.3	. .	24.5	55.5	24.3	56.0	69 24.0
11	17	α Lyræ . . .	E.	S.	18 0 57.3	26.0	56.3	25.7	57.7	31.0	3.0	N.	47.3	25.3	4.5	42.0	18.5	39.0	70 39.0
	18		W.	N.	18 59 16.7	56.0	36.7	13.3	51.0	30.5	6.0	S.	52.7	25.5	57.5	29.7	58.7	29.0	68 59.5
18	19	α Lyræ . . .	E.	N.	18 1 5.9	35.7	7.0	36.0	7.7	38.5	9.0	S.	17.0	50.7	28.7	6.7	45.0	26.0	71 5.5
	20		W.	S.	18 59 18.7	58.3	40.3	16.7	56.0	32.7	7.0	N.	15.0:	45.3	17.0	48.7	13.3	49.5	69 18.7
22	21	α Lyræ . . .	E.	S.	18 1 . .	55.5	27.5	56.0	26.3	1.0	34.5	N.	19.3	56.5	35.0	11.3	49.0	30.5	71 9.0
	22		W.	N.	18 59 38.7	19.0	0.0	36.7	14.0	53.0	31.0	S.	14.3	. .	21.5	52.5	21.3	53.5	69 21.7
23	23	α Lyræ . . .	E.	N.	18 1 23.5	52.0	23.0	53.5	25.5	57.5	25.5	S.	34.0	6.5	47.5	25.0	1.5	43.0	71 23.5
	24		W.	S.	18 59 33.5	12.0	54.0	32.5	9.5	47.5	21.0	N.	27.5	58.0	30.0	2.0	32.5	2.5	69 32.5
28	25	α Lyræ . . .	E.	S.	18 1 45.0	15.5	44.0	15.0	46.0	21.0	52.5	N.	38.0	14.5	52.0	29.0	6.5	47.5	71 25.0
	26		W.	N.	18 59 57.0	36.5	16.0	53.5	32.0	10.5	48.0	S.	31.0	5.0	37.0	9.0	37.0	8.0	69 37.5
July 3	27	α Lyræ . . .	E.	N.	18 1 58.5	27.0	58.5	27.5	59.5	32.0	1.0	S.	7.0	42.0	20.0	0.0	36.5	17.0	71 56.0
	28		W.	S.	18 59 58.5	38.0	21.0	58.5	36.5	14.0	49.0	N.	57.5	26.0	59.0	29.0	0.0	. .	69 . .
3	29	α Lyræ . . .	E.	S.	18 2 10.0	38.0	9.5	37.5	10.5	44.0	18.0	N.	0.5	38.5	18.0	55.0	32.5	13.5	71 52.0
	30		W.	N.	19 0 13.0	53.0	33.5	10.0	48.5	28.0	4.5	S.	50.0	22.5	57.0	27.0	58.0	29.0	69 56.5
6	31	α Lyræ . . .	E.	N.	18 2 11.5	41.3	12.7	41.5	13.5	46.3:	15.0	S.	15.3	49.0	26.7	5.3	42.5	24.3	72 5.0
	32		W.	S.	19 0 5.7	47.0	27.7	5.3	45.7	22.0	56.0	N.	56.7	26.0:	58.5	30.0	0.0	31.0	70 0.5
7	33	α Lyræ . . .	E.	S.	18 2 13.7	42.3	14.0	42.0	13.5	47.5	20.0	N.	14.7	51.0	29.5	8.7	46.0	26.3	72 6.0
	34		W.	N.	19 0 8.0	47.5	28.0	6.7	44.7	23.0	0.5	S.	55.0	28.0	1.7	33.3	2.3	33.3	70 2.5
14	35	α Lyræ . . .	E.	N.	18 2 28.0	57.7	. .	58.0	29.5	2.3	31.7	S.	31.5	5.7	43.7	21.5	59.3	39.5:	72 12.5
	36		W.	S.	19 0 20.0	1.5	42.7	19.5	58.3	38.3	11.0:	N.	9.3	39.5	10.0	41.7	11.5	43.3	70 13.5
18	37	α Lyræ . . .	E.	S.	18 2 37.0	6.0	36.5	5.0	36.7	10.3	42.7	N.	38.3	16.0	55.5	32.7	9.7	52.5	72 30.5
	38		W.	N.	19 0 22.3	3.5	43.5	22.5	0.3	39.0	17.0	S.	10.3	43.5	16.0	48.7	18.0	48.5	70 17.5
20	39	α Lyræ . . .	E.	N.	18 2 42.0	13.0	44.5	13.0	46.0	18.0	46.0	S.	46.0	20.5	57.5	35.5	14.5	56.0	72 37.0
	40		W.	S.	19 0 28.5	8.0	49.0	27.0	6.0	43.5	17.5	N.	17.0	47.0	20.0	50.0	20.0	51.5	70 21.0
25	41	α Lyræ . . .	E.	S.	18 2 57.0	25.7	56.7	26.3	56.5	31.0	3.7	N.	58.3	36.0	15.0	53.3	31.5	12.0	72 50.5
	42		W.	N.	19 0 43.3	22.7	4.0	41.5	20.0	59.0	36.5	S.	31.3	4.3	37.5	8.5	39.0	9.3	70 38.0
26	43	α Lyræ . . .	E.	N.	18 3 3.0	30.5	3.5	32.5	4.5	37.0	6.0	S.	7.0	40.5	16.5	57.5	33.0	15.5	72 55.5
	44		W.	S.	19 0 47.0	27.5	9.0	47.5	27.0	4.0	38.0	N.	35.0	7.0	38.0	10.0	40.0	11.5	70 41.5
28	45	α Lyræ . . .	E.	S.	18 3 5.5	34.7	5.3	35.5	6.0	39.5	13.0	N.	7.7	45.0	23.7	2.5	40.0	19.5	73 0.0:
	46		W.	N.	19 0 49.5	29.5	10.0	47.7	25.5	5.0	42.5	S.	37.0	10.3	44.0	15.0	44.5	16.0	70 44.7
Aug. 7	47	α Lyræ . . .	E.	N.	17 58 34.0	5.0	35.5	5.5	38.0	10.0	40.0	S.	40.5	13.0	52.5	31.0	7.5	50.0	68 30.5
	48		W.	S.	18 56 9.0	49.0	32.5	9.5	47.0	27.5	0.0	N.	59.0	30.0	2.0	35.0	4.0	35.5	66 5.0
8	49	α Lyræ . . .	E.	S.	17 58 33.5	4.0	35.5	4.0	35.5	8.5	42.5	N.	38.0	16.0	55.6	34.5	12.5	52.0	68 34.5
	50		W.	N.	18 56 10.5	53.0	32.0	12.0	49.5	29.5	6.5	S.	2.0	35.0	9.0	41.5	11.0	40.0	66 10.0

No. for reference.	LEVEL READINGS. Before reversal. N.	Before reversal. S.	After reversal. N.	After reversal. S.	Mean, ½ (S.–N.)	Correction for level.	Apparent declination.	Reduction to 1870.0.	Mean declination, 1870.0.	Weight.	Observer.	REMARKS.
	d.	d.	d.	d.	d.	″	° ′ ″	″	° ′ ″			
1	45.2	68.7	64.6	49.7	+ 2.15					3		
2	66.5	51.2	47.1	70.9	2.15	+ 2.11	+38 39 33.66	+ 17.74	+38 39 51.40	3	N.	
3	63.1	49.9	45.7	67.4	2.12					4		
4	46.0	67.9	63.5	50.2	2.15	2.11	34.14	17.15	51.29	4	N.	
5	57.6	45.1	38.9	64.4	3.25					4		
6	38.8	65.1	58.9	45.1	3.12	3.12	36.29	14.90	51.19	1	Ha.	
7	57.3	43.3	39.2	61.8	2.15					2		
8	41.1	63.9	59.9	45.2	2.02	2.06	38.05	13.23	51.28	3	N.	
9	37.6	61.0	56.2	43.0	2.55					3		
10	56.3	43.1	37.8	61.9	2.72	2.60	38.26	12.98	51.24	1	Ha.	
11	51.2	39.2	34.1	56.4	2.57					3		
12	35.2	57.7	52.7	40.2	2.50	2.50	38.84	12.42	51.26	3	N.	
13	53.4	40.9	35.2	59.2	2.87					3		
14	35.5	59.7	54.5	40.9	2.65	2.72	40.82	10.75	51.57	3	Ha.	
15	55.6	43.5	37.7	61.3	2.87					3		
16	38.2	62.2	56.4	44.0	2.90	2.84	40.86	10.09	50.95	4	N.	
17	45.0	70.6	64.4	51.2	3.10					4		
18	65.1	52.3	46.0	71.5	3.17	3.08	41.75	9.52	51.27	3	N.	
19	58.2	45.6	39.9	64.3	2.95					3		
20	40.0	65.2	58.8	46.3	3.18	3.02	43.78	7.44	51.22	5	N.	
21	44.3	70.0	63.5	50.9	3.28					3		
22	65.0	52.2	45.5	71.8	3.37	3.27	45.38	6.07	51.45	3	N.	
23	61.3	48.6	43.2	67.9	3.00					2		
24	44.5	69.2	63 8	50.9	2.92	3.18	45.57	5.75	51.32	3	Ha.	
25	46.4	73.3	65.3	54.8	4.10					2		
26	66.0	55.0	46.9	74.1	4.05	4.02	46.90	4.35	51.25	2	Ha.	
27	62.0	49.7	44.7	67.8	2.70					2		
28	44.7	68.9	63.0	50.4	2.90	2.76	48.47	2.77	51.24	2	Ha.	
29	40.2	64.0	58.5	46.8	3.12					3		
30	58.7	47.2	41.1	65.5	3.23	3.14	49.04	2.09	51.13	3	Ha.	
31	64.5	46 9	46.7	64.9	0.15					4		
32	47.0	65.8	65.2	47.6	0.30	0.22	49.38	1.77	51.15	3	N.	
33	39.1	56.5	55.1	40.5	0.70					4		
34	57.2	42.4	41.0	58.9	0.78	0.73	49.91	+ 1.49	51.40	3	N.	
35	72.2	54.5	52.9	74.0	0.85					2		
36	54.5	75.9	74.5	56.0	+ 0.72	+ 0.78	51.32	— 0.41	50.91	2	N.	
37	51.9	69.9	70.0	52.0	0.00					3		
38	71.4	52.5	52.8	71.3	— 0.10	— 0.05	53.09	1.68	51.41	3	N.	
39	70.9	51.8	52.7	70.0	0.45					1		
40	53.9	71.0	72.2	52.9	— 0.55	— 0.49	53.57	2.28	51.29	2	Ha.	
41	46.8	66.4	63.3	49.9	+ 1.55					3		
42	64.2	48.9	47.1	66.0	0.90	+ 1.20	54.31	3.47	50.84	4	N.	
43	66.0	52.9	48.8	70.0	+ 2.02					3		
44	52.5	69.1	69.8	52.0	— 0.30	0.84	54.64	3.71	50.93	2	Ha.	
45	36.1	54.7	53.1	37.9	+ 0.85					4		
46	53.9	38.7	37.0	55.3	+ 0.78	+ 0.80	55.21	4.23	50.98	3	N.	
47	66.8	46.5	48.9	64.7	— 1.12					3		
48	50.6	65.9	68.2	48.1	— 1.20	— 1.13	57.65	6.67	50.98	2	Ha.	
49	49.2	68.0	67.0	50.6	+ 0.60					2		
50	69.2	51.8	50.7	70.3	+ 0.55	+ 0.57	+38 39 57.73	— 6.86	+38 39 50.87	3	Ha.	

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES. A.	B.	C.	D.	E.	F.	G.	Telescope.	TIMES OF TRANSIT OVER WIRES. G.	F.	E.	D.	C.	B.	A.
1865.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
Aug. 11	1	α Lyræ . . .	E.	N.	17 58 42.5	13.0	43.5	11.5	46.5	17.5	46.5	S.	47.5	20.0	58.0	36.0	14.0	56.0	68 37.5
	2		W.	S.	18 56 20.0	1.5	42.5	19.0	59.5	37.5	11.0	N.	10.0	40.0	12.0	44.0	12.5	46.5	66 15.0
16	3	α Lyræ . . .	E.	S.	17 58 51.5	20.0	51.0	22.0	52.0	25.5	0.0	N.	57.5	34.0	12.5	53.5	29.0	12.0	68 51.5
	4		W.	N.	18 56 24.5	6.5	47.5	26.0	3.0	44.0	21.0	S.	18.0	52.0	26.0	56.5	27.0	57.0	66 27.0
Sept. 2	5	α Lyræ . . .	E.	N.	17 59 37.0	7.3:	38.3	8.7	40.0	11.5	42.0	S.	44.3	18.3	56.5	35.7	13.5	54.7:	69 36.0
	6		W.	S.	18 57 6.5	47.3	29.7	6.7	46.3	24.0	57.3	N.	59.3	30.0	3.0	35.0	4.5	35.7	67 6.0
6	7	α Lyræ . . .	E.	S.	17 59 49.7	18.5	48.5	19.3	50.5	24.0	57.5	N.	51.3	29.5	9.0	47.0	25.7	7.0	69 45.0:
	8		W.	N.	18 57 18.3	59.0	39.3	18.7	56.0	35.5	13.0	S.	8.0	42.0:	15.5	46.7	17.0	48.0	67 16.0
11	9	α Lyræ . . .	E.	N.	18 0 4.5	33.7	5.5	34.5	7.3	39.0	8.7	S.	11.7	44.3	23.0	2.3	40.0	21.5	70 2.7:
	10		W.	S.	18 57 . .	11.0	53.3	32.0	11.0	48.7	22.5	N.	23.3	55.0	26.2	58.7	28.3	0.5	67 30.3
12	11	α Lyræ . .	E.	S.	18 0 7.7	36.7	7.7	37.0	9.0	42.0	15.5	N.	10.7	47.7	27.3	5.5	43.3	25.5	70 5.0
	12		W.	N.	18 57 34.5	14.3	54.7	32.7	11.3	50.0	27.0	S.	24.0	57.0	30.7	1.5	32.0	2.5	67 31.3
16	13	α Lyræ . .	E.	N.	18 0 18.0	. .	19.7	49.0	21.7	53.0	24.0	S.	21.5	. .	33.7	13.0	51.0	32.0	70 13.0
	14		W.	S.	18 57 . .	26.0	9.0	45.5	23.7	4.0	37.5	N.	35.0	5.5	37.5	8.5	39.0	10.0	67 39.7
19	15	α Lyræ . . .	E.	S.	18 0 21.0	49.5	21.3	50.5	22.5	55.5	30.0	N.	26.5	4.3	43.5	23.0	0.7	41.0	70 21.0
	16		W.	N.	18 57 . .	28.7	8.0	48.0	24.7	6.7	43.5	S.	41.5:	16.0	48.5	18.7	50.5	20.0	67 48.0
20	17	α Lyræ . . .	E.	N.	18 0 23.7	52.5	24.7	54.3	26.5	58.5	28.5	S.	30.7	4.0	42.0	21.0	59.5	40.7	70 21.5
	18		W.	S.	18 57 51.5	32.3	14.0	51.0	30.7	10.3	43.0	N.	43.0	13.7	45.5	17.5	47.5	19.5	67 48.0
Oct. 20	19	α Lyræ . . .	E.	N.	18 1 5.3	35.0	7.0	36.5	8.3	40.7	11.3	S.	12.3	47.0	24.3	3.7	42.0	23.7	71 5.3
	20		W.	S.	18 58 29.3	9.7	52.3	29.5	9.5	46.7	21.0	N.	21.7	52.0	23.5	56.0	25.5	57.3	68 27.0
21	21	α Lyræ . . .	E.	S.	18 1 7.0	35.7	7.3	36.5	8.0	40.7	14.7	N.	11.0	48.3	27.7	6.5	44.0	26.5	71 6.0
	22		W.	N.	18 58 30.3	10.0	51.7	29.7	8.3	57.5	25.0	S.	22.0	56.3	28.7	0.7	30.0	1.7	68 29.5
Nov. 1	23	α Lyræ . . .	E.	N.	18 1 6.7	36.3	8.0	37.5	9.5	41.7	12.3	S.	14.5	49.0	26.7	6.7	44.5	. .	71 7.3
	24		W.	S.	18 58 33.5	14.5	56.5	34.3	13.3	50.7	25.7	N.	27.7	. .	29.7	1.5	. .	3.3	68 33.0
6	25	α Lyræ . .	E.	N.	18 1 . .	. .	7.3	36.5	8.7	41.0	10.5	S.	13.0	47.7	25.5	4.5:	41.7	. .	. . .
	26		W.	S.	18 58 . .	. .	57.0	34.7	14.0	51.5	26.0	N.	27.0	56.7	29.5	1.0	30.5	. .	. . .
8	27	α Lyræ . . .	E.	S.	18 1 9.5	38.0	9.0	38.5	9.5	43.0	16.0	N.	10.0	48.5	27.5	6.0	44.5	25.0	71 5.0
	28		W.	N.	18 58 36.5	16.0	59.0	36.5	14.8	54.0	31.0	S.	26.0	0.5	33.5	4.8	36.0	6.0	68 34.5
9	29	α Lyræ . . .	E.	N.	18 1 8.5	38.0	10.0	39.5	11.0	44.0	14.0	S.	18.5	52.5	31.0	9.0	49.0	30.0	71 11.0
	30		W.	S.	18 58 35.0	17.5	59.0	37.0	15.2	53.8	27.5	N.	31.0	1.0	33.5	5.0	34.0	5.5	68 35.0
10	31	α Lyræ . .	E.	N.	18 1 8.5	38.0	10.0	40.0	12.0	44.0	14.5	S.	15.5	50.5	28.5	8.0	44.0	27.5	71 8.5
	32		W.	S.	18 58 37.8	20.0	1.0	39.5	18.0	55.5	29.5	N.	31.0	1.5	34.0	6.0	35.0	6.2	68 36.5
11	33	α Lyræ . .	E.	S.	18 1 11.0	40.5	12.0	41.0	11.5	46.0	19.5	N.	14.0	51.5	31.5	9.0	47.5	30.5	71 10.0
	34		W.	N.	18 58 37.5	17.0	57.0	37.0	14.5	54.0	30.0	S.	29.0	2.5	35.0	7.0	35.0	8.0	68 36.0
13	35	α Lyræ . . .	E.	S.	18 1 10.5	40.0	10.0	40.5	11.5	44.0	17.5	N.	10.0	47.0	26.5	5.5	44.5	24.0	71 4.0
	36		W.	N.	18 58 41.5	21.5	2.0	40.5	18.0	59.5	36.0	S.	. .	59.5	33.0	6.5	36.0	6.0	68 35.5
14	37	α Lyræ . . .	E.	N.	18 1 9.0	38.0	10.0	39.5	11.0	44.0	14.0	S.	18.5	53.5	30.0	10.5	49.0	30.5	71 11.0
	38		W.	S.	18 58 38.5	20.0	1.5	39.3	18.5	56.0	30.7	N.	34.0	4.5	36.5	8.7	38.0	10.0	68 39.0
16	39	α Lyræ . . .	E.	N.	18 1 11.0	40.5	12.0	40.8	12.5	44.5	14.3	S.	23.0	55.5	34.0	13.0	51.5	33.5	71 13.8
	40		W.	S.	18 58 39.5	21.0	3.5	41.2	20.5	58.0	32.5	N.	37.5	7.0	40.0	11.5	40.0	12.0	68 42.0
17	41	α Lyræ . . .	E.	S.	18 1 15.5	43.5	15.0	45.0	16.2	50.5	23.0	N.	14.5	52.0	30.0	9.5	48.8	29.5	71 8.0
	42		W.	N.	18 58 43.5	23.0	4.5	43.0	22.0	1.0	38.0	S.	31.2	4.5	38.0	10.2	40.5	10.0	68 39.0
25	43	α Lyræ . . .	E.	N.	18 1 19.5	50.0	22.0	49.8	22.6	55.0	25.0	S.	27.0	2.0	39.5	18.2	56.0	37.5	71 18.8
	44		W.	S.	18 58 56.0	37.0	19.5	56.5	35.8	14.2	47.3	N.	48.0	18.2	51.0	21.8	51.0	22.8	68 52.5
28	45	α Lyræ . . .	E.	S.	18 1 22.2	49.0	22.0	51.5	23.0	56.0	29.5	N.	23.5	2.0	40.5	19.5	59.0	38.5	71 17.0
	46		W.	N.	18 58 59.0	40.0	19.5	58.0	36.5	15.8	54.0	S.	48.0	21.5	54.0	27.0	56.0	26.5	68 54.5
Dec. 2	47	α Lyræ . . .	E.	N.	18 1 20.5	50.0	21.0	51.0	23.0	55.0	26.0	S.	29.0	3.0	41.0	20.0	58.0	40.5	71 21.0
	48		W.	S.	18 59 0.5	41.0	23.2	1.0	40.2	17.5	51.7	N.	52.5	24.0	56.7	29.0	58.5	30.0	68 59.8
8	49	α Lyræ . . .	E.	S.	18 1 25.5	53.8	24.0	55.0	26.0	59.0	32.0	N.	27.5	5.0	44.0	24.0	1.0	41.5	71 22.0
	50		W.	N.	18 59 7.5	47.0	28.5	7.0	44.0	22.5	1.5	S.	57.0	30.5	3.5	34.0	4.5	35.0	69 3.5

No. for reference.	LEVEL READINGS. Before reversal. N.	Before reversal. S.	After reversal. N.	After reversal. S.	Mean, ½ (S.–N.)	Correction for level.	Apparent declination.	Reduction to 1870.0.	Mean declination, 1870.0.	Weight.	Observer.	REMARKS.
	d.	d.	d.	d.	d.	"	° ′ "	"	° ′ "			
1	63.9	47.7	46.1	65.7	— 0.85	+ 0.89	+38 39 58.09	— 7.50	+38 39 50.59	2	Ha.	
2	47.5	67.2	65.6	49.7	0.95					2		
3	49.9	72.1	69.6	52.7	1.32	1.29	59.40	8.67	50.73	3	Ha.	
4	72.6	54.8	52.1	75.1	1.30					2		
5	63.4	46.2	44.0	65.6	1.10	1.07	61.85	11.32	50.53	4	N.	
6	46.7	67.8	65.6	48.8	1.08					3		
7	45.6	67.9	64.5	49.2	1.75	1.77	62.52	11.70	50.82	5	N.	
8	66.5	51.2	47.6	70.3	1.85					4		
9	63.4	46.4	43.5	66.7	1.55	1.53	63.53	12.35	51.18	5	N.	
10	44.9	68.1	65.0	48.0	1.55					4		
11	42.7	63.5	61.4	44.7	1.02	1.16	63.45	12.46	50.99	5	N.	
12	63.4	46.7	44.1	66.1	1.32					4		
13	47.3	70.1	66.9	50.9	1.70	1.56	63.54	12.69	50.85	3	N.	
14	70.1	52.2	49.3	73.1	1.48					1½		
15	67.0	50.2	45.5	71.9	2.40	2.28	63.76	12.79	50.97	3	N.	
16	47.5	73.5	69.1	52.0	2.22					3		
17	43.1	68.0	63.5	47.7	2.27	+ 2.07	63.82	12.83	50.99	3	N.	
18	66.4	49.9	46.0	70.2	1.93					3		
19	24.1	44.5	43.8	24.8	+ 0.35	— 0.18	63.60	12.26	51.34	5	N.	
20	46.1	26.3	27.8	44.8	— 0.70					4		
21	43.1	24.6	24.4	43.3	+ 0.10	0.14	63.09	12.21	50.88	4	N.	
22	27.7	45.2	46.1	27.1	— 0.38					4		
23	31.0	50.5	50.9	30.8	0.15	0.45	61.64	10.78	50.86	4	N.	
24	51.8	31.5	33.2	50.4	— 0.77					4		
25	37.2	57.8	57.2	37.8	+ 0.30	0.24	61.24	10.15	51.09	2	N.	
26	57.8	37.3	38.9	56.3	— 0.78					3		
27	61.6	40.8	40.7	61.8	+ 0.07	0.27	60.83	9.80	51.03	1	H.*	* Prof. Hall.
28	42.0	61.6	62.8	40.7	— 0.63					2		
29	32.5	52.6	53.4	31.4	0.48	0.85	61.27	9.59	51.68	2	H.	
30	52.8	30.8	33.4	50.4	1.25					2		
31	36.2	56.3	56.8	35.8	0.22	0.34	60.67	9.37	51.30	2	H.	
32	57.4	36.3	37.3	56.6	0.45					3		
33	68.6	43.9	46.5	66.0	1.30	1.59	60.59	9.15	51.44	2	H.	
34	48.0	65.5	69.5	44.3	— 1.92					2		
35	52.0	33.7	33.7	52.1	+ 0.03	0.05	60.29	8.72	51.57	3	H.	
36	31.8	50.6	50.8	31.5	— 0.13					2		
37	31.2	48.1	48.4	29.6	0.47	0.64	60.04	8.52	51.52	3	H.	
38	49.0	29.6	31.5	47.6	0.83					3		
39	29.6	45.5	47.2	27.9	0.85	1.01	59.63	8.16	51.47	3	H.	
40	48.0	27.7	30.2	45.7	1.20					3		
41	45.0	24.0	26.4	43.0	1.10	1.57	59.36	7.98	51.38	3	H	
42	27.7	40.8	45.0	23.6	2.07					3		
43	41.5	62.5	63.0	40.6	0.35	0.60	57.56	6.10	51.46	3	H.	
44	61.9	40.0	41.6	60.0	— 0.87					3		
45	66.6	45.7	45.1	67.0	+ 0.25	0.22	56.96	5.33	51.63	2	H.	
46	46.1	65.2	66.7	44.8	— 0.70					3		
47	41.2	63.2	62.6	41.1	+ 0.12	0.34	55.78	4.43	51.35	2	H.	
48	61.8	38.2	39.6	60.0	— 0.85					3		
49	75.9	51.7	51.3	76.0	+ 0.13	— 0.42	+38 39 54.46	— 2.72	+38 39 51.74	2	H.	
50	51.6	74.2	76.2	49.7	— 0.97					2		

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES. A.	B.	C.	D.	E.	F.	G.	Telescope.	TIMES OF TRANSIT OVER WIRES. G.	F.	E.	D.	C.	B.	A.
1865.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
Dec. 14	1	α Lyræ . . .	E.	N.	18 1 18.5	48.0	19.5	49.5	20.5	52.0	22.5	S.	23.0	56.0	34.0	12.0	49.5	31.2	71 12.5
	2		W.	S.	18 59 5.0	46.0	26.5	4.8	44.0	22.0	55.3	N.	54.5	24.2	56.5	29.0	59.0	29.5	68 59.0
16	3	α Lyræ . . .	E.	S.	18 1 16.0	44.5	14.0	44.5	16.0	49.0	21.0	N.	17.5	56.0	34.5	12.5	50.0	31.0	71 . .
	4		W.	N.	18 59 9.0	49.0	29.0	8.0	45.0	24.5	1.5	S.	56.0	31.0	4.5	35.0	6.0	35.5	69 4.5
22	5	α Lyræ . . .	E.	N.	18 1 12.5	41.0	13.0	41.5	13.0	45.5	14.5	S.	14.0	49.0	25.0	5.0	41.5	25.5	71 5.5
	6		W.	S.	18 59 6.0	46.0	27.5	4.0	44.0	21.5	55.5	N.	53.5	24.5	57.0	29.0	58.0	29.5	68 59.0
23	7	α Lyræ . . .	E.	S.	18 1 11.0	40.0	10.0	41.0	11.5	44.0	18.0	N.	14.0	52.0	30.5	7.5	46.0	28.0	71 5.5
	8		W.	N.	18 59 6.0	46.0	26.5	3.5	41.0	22.0	59.0	S.	53.5	28.5	1.5	32.0	2.0	32.0	69 0.5

No. for reference.	LEVEL READINGS.				Mean, ½ (S.–N.)	Correction for level.	Apparent declination.	Reduction to 1870.0.	Mean declination, 1870.0.	Weight.	Observer.	REMARKS.
	Before reversal.		After reversal.									
	N.	S.	N.	S.								
	d.	d.	d	d.	d.	"	° ′ ″	"	° ′ ″			
1	56.9	82.0	82.0	56.4	— 0.12					2	H.	
2	67.3	67.8	69.5	65.4	— 0.90	— 0.51	+38 39 52.54	— 1.00	+38 39 51.54	3		
3	73.7	78.0	73.0	78.3	+ 2.40					2	H.	
4	73.1	77.1	73.9	76.4	1.62	+ 1.98	51.68	— 0.47	51.21	2		
5	49.5	52.3	52.0	49.4	1.35					2	H.	
6	48.8	50.1	49.6	49.1	0.20	0.76	50.43	+ 1.43	51.86	2		
7	53.0	55.5	53.8	54.6	0.82					2	H.	
8	53.0	52.8	52.6	53.0	+ 0.05	+ 0.44	+38 39 49.71	+ 1.77	+38 39 51.48	2		

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OBSERVATIONS

WITH THE

EQUATORIAL,

1865.

OBSERVATIONS

WITH THE

EQUATORIAL.

EUTERPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 4	Weisse 2, VI, 1172	9.8	. .	36.6	4 56 23.32	1 39.972	+2 12.00	— 53.971	m. s. Corr. Chron. + 4 6.74
		14.3	23.4	32.5					α δ
F.	Euterpe . . .	. .	. .	48.5	4 58 35.32	5 33.942			h. m. s. ° ′ ″
		. .	35.6	44.4					Weisse 2, VI, 1172, 6 38 40.23 +23 49 0.00
	Weisse 2, VI, 1172	51.2	. .	17.8	5 1 4.42	1 40.040	2 12.04	53.964	Euterpe—Weisse 2, VI, 1172,
		55.2	4.4	13.5					Δ α Δ δ
	Euterpe . . .	3.4	. .	29.6	3 16.46	5 34.005			h. m. s. m. s. ′ ″
		7.5	16.4	25.4					Sid. T. 5 7 16.04 + 2 11.89 —13 47.60
	Weisse 2, VI, 1172	11.3	. .	37.7	5 24.48	1 40.202	+2 11.64	— 53.945	Δ ρ .00 — .25
		15.4	24.5	33.5					p — .20 + 2.61
	Euterpe . . .	22.8	. .	49.4	5 7 36.12	5 34.146			
		27.2	36.0	45.2					
Jan. 11	Weisse 2, VI, 935	31.6	. .	58.1	2 43 44.78	2 46.019	+2 4.48	+ 9.636	m. s. Corr. Chron. + 4 25.91
		35.6	44.8	53.8					α δ
F.	Euterpe . . .	35.6	. .	2.8	45 49.26	2 36.383			h. m. s. ° ′ ″
		40.1	49.2	58.6					Weisse 2, VI, 935, 6 31 54.48 +23 47 45.33
	Weisse 2, VI, 935	18.9	. .	46.0	47 32.46	3 33.190	2 4.48	9.520	
		23.5	32.4	41.5					Euterpe—Weisse 2, VI, 935,
	Euterpe . . .	23.7	. .	50.3	49 36.94	2 36.455			Δ α Δ δ
		28.0	36.6	46.1					h. m. s. m. s. ′ ″
	Weisse 2, VI, 935	55.4	. .	22.2	51 8.76	3 33.470	2 4.28	9.570	Sid. T. 3 14 45.50 + 2 3.51 + 2 27.08
		59.6	8.8	17.8					Δ ρ .00 + .05
	Euterpe . . .	59.8	. .	26.5	53 13.04	2 36.685			p — .38 + 3.18
		3.9	12.8	22.2					
	Weisse 2, VI, 935	32.6	. .	59.6	54 46.10	3 33.220	2 4.04	9.427	
		36.9	46.2	55.2					
	Euterpe . . .	36.8	. .	3.5	56 50.14	2 36.578			
		40.9	50.2	59.3					
	Weisse 2, VI, 935	52.8	. .	19.6	2 59 6.18	3 33.584	2 3.70	9.331	
		57.1	6.1	15.3					
	Euterpe . . .	56.7	. .	23.3	3 1 9.88	2 37.038			
		0.8	9.7	18.9					
	Weisse 2, VI, 935	53.2	. .	19.6	5 6.52	3 33.549	2 3.66	9.530	
		57.5	6.6	15.7					
	Euterpe . . .	56.9	. .	23.6	7 10.18	2 36.804			
		1.0	10.1	19.3					
	Weisse 2, VI, 935	34.3	. .	0.9	23 47.70	3 34.188	2 2.84	9.557	
		38.6	47.8	56.9					
	Euterpe . . .	37.4	. .	3.7	25 50.54	2 37.416			
		41.5	50.5	59.6					
	Weisse 2, VI, 935	32.8	. .	59.7	27 46.28	3 34.210	2 2.84	9.685	
		37.3	46.3	55.3					
	Euterpe . . .	35.8	. .	2.3	29 49.12	2 37.310			
		40.2	49.1	58.2					
	Weisse 2, VI, 935	30.8	. .	57.3	31 44.06	3 34.308	2 2.58	9.793	
		35.0	44.0	53.2					
	Dorpat 942 . .	51.5	. .	18.1	33 4.78	4 37.032			
		55.8	4.7	13.8					
	Dorpat 942 . .	52.4	. .	18.8	33 5.58	4 36.783			
		56.8	5.5	14.4					
	Euterpe . . .	33.3	. .	0.1	33 46.64	2 37.300			
		37.6	46.6	55.6					
	Dorpat 942 . .	45.2	. .	11.8	37 58.54	3 34.440	+2 2.24	+ 9.855	
		49.6	58.5	7.6					
	Euterpe . . .	47.5	. .	14.1	3 40 0.78	2 37.370			
		51.8	0.8	9.7					

LEDA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m s.	revs.	m. s.	revs.	
Jan. 14		34.7	. .	0.9					m. s. Corr. Chron. + 4 39.41
	Weisse 2, VII, 1305	39.0	47.7	56.6	3 28 47.78	3 43.883	+1 27.30	+ 8.854	α δ
H.		2.2	. .	28.0					h. m. s. ° ′ ″
	Leda	6.2	15.1	23.9	30 15.08	3 35.029			Weisse 2, VII, 1305, 7 46 18.51 +21 27 1.47
		45.0	. .	11.0					Leda—Weisse 2, VII, 1305,
	Weisse 2, VII, 1305	48.9	57.4	6.8	32 57.82	3 44.022	1 27.28	8.603	Δ α Δ δ
		12.4	. .	38.0					h. m. s. m. s. ′ ″
	Leda	16.3	. .	33.7	3 34 25.10	3 35.419			Sid. T. 3 36 59.50 + 1 27.29 + 2 13.86
		4.3	. .	30.7					Δ ρ .00 + .06
	Weisse 2, VII, 1305	8.4	17.4	26.7	4 49 17.50	3 44.116	1 23.83	8.330	p — 0.32 + 2.67
		. .	. .	54.4					
	Leda	. .	41.7	50.2	50 41.33	3 35.786			
		11.3	. .	37.7					
	Weisse 2, VII, 1305	15.6	24.4	33.7	52 24.54	3 44.140	1 23.48	8.558	m. s. Corr. Chron. + 4 39.71
		35.0	. .	1.0					Δ α Δ δ
	Leda	39.2	48.0	56.9	53 48.02	3 35.582			h. m. s. m. s. ′ ″
		37.4	. .	3.7					Sid. T. 5 7 58.81 + 1 23.09 + 2 9.68
	Weisse 2, VII, 1305	41.6	50.3	59.3	4 58 50.46	3 44.370	1 23.36	8.553	Δ ρ .00 + .04
		0.7	. .	26.9					p — .23 + 2.32
	Leda	4.8	13.8	22.9	5 0 13.82	3 35.817			
		35.1	. .	1.5					
	Weisse 2, VII, 1305	39.2	48.1	57.2	5 48.22	3 44.496	1 22.96	8.466	
		58.2	. .	24.0					
	Leda	2.3	11.2	20.2	7 11.18	3 36.030			
		41.2	. .	7.8					
	Weisse 2, VII, 1305	45.5	54.3	3.6	10 54.48	3 44.685	1 22.64	8.445	
		4.0	. .	30.3					
	Leda	8.1	17.0	26.2	12 17.12	3 36.240			
		7.7	. .	33.9					
	Weisse 2, VII, 1305	12.0	20.9	29.9	14 20.88	3 44.611	+1 22.26	+ 8.381	
		30.4	. .	56.4					
	Leda	34.2	43.1	51.6	5 15 43.14	3 36.230			
Jan. 17	Leda	. .	. .	. .	8 16 30.0	4 43.300			
	Weisse 2, VII, 1305	. .	. .	. .		4 38.652	—1 39.60	— 4.648	This observation was made with the mean time chronometer 1828 by eye and ear, the magnetic circuit not working.
H.	Leda	. .	. .	. .	27 35.0	4 43.625			
	Weisse 2, VII, 1305	. .	. .	. .		4 38.127	1 40.00	5.498	
	Leda	. .	. .	. .	31 16.0	4 43.780			m. s. Corr. Chron. — 4 51.6
	Weisse 2, VII, 1305	. .	. .	. .		4 38.095	1 40.50	5.685	α δ
	Leda	. .	. .	. .	35 30.0	4 43.787			h. m. s. ° ′ ″
	Weisse 2, VII, 1305	. .	. .	. .		4 38.015	1 40.80	5.772	Weisse 2, VII, 1305, 7 46 18.54 +21 27 1.43
	Leda	. .	. .	. .	39 25.0	4 43.858			Leda—Weisse 2, VII, 1305,
	Weisse 2, VII, 1305	. .	. .	. .		4 38.083	1 41.20	5.775	Δ α Δ δ
	Leda	. .	. .	. .	43 56.0	4 43.970			h. m. s. m. s. ′ ″
	Weisse 2, VII, 1305	. .	. .	. .		4 38.227	1 41.30	5.743	M. T. 8 38 25.5 — 1 41.04 — 1 26.86
	Leda	. .	. .	. .	48 10.0	4 44.061			Δ t — .28 . . .
	Weisse 2, VII, 1305	. .	. .	. .		4 38.368	1 41.30	5.693	Δ ρ .00 — .02
	Leda	. .	. .	. .	52 20.0	4 44.252			p — .29 + 2.70
	Weisse 2, VII, 1305	. .	. .	. .		4 38.392	1 41.50	5.860	
	Leda	. .	. .	. .	8 56 18.0	4 44.312			
	Weisse 2, VII, 1305	. .	. .	. .		4 38.520	1 41.30	5.792	
	Leda	. .	. .	. .	9 0 2.0	4 44.400			
	Weisse 2, VII, 1305	. .	. .	. .		4 38.561	1 41.90	5.839	
	Leda	. .	. .	. .	9 5 6.0	4 44.668			
	Weisse 2, VII, 1305	. .	. .	. .		4 38.683	—1 42.00	— 5.985	

LEDA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. Jan. 20 F.	Weisse 2, VII. 1138	9.5	. .	35.3					m. s. Corr. Chron. + 5 9.25
		13.4	22.6	31.7	3 55 22.50	4 29.088			α δ
	Weisse 2, VII, 1143	18.2	. .	44.0					h. m. s. ° ′ ″
		22.1	31.2	40.3	55 31.16	2 41.458	+1 35.70	— 0.624	Weisse 2, VII, 1143, 7 40 0.62 +21 21 41.08
	Weisse 2, VII, 1170	8.5	. .	. .					
		12.5	21.6	30.5	56 21.48	5 54.485			Leda—Weisse 2, VII, 1143,
	Leda	53.8	. .	19.9					Δ α Δ δ
		57.9	6.9	15.8	57 6.86	2 42.082			m. s. ′ ″
									Sid. T. 4 42 48.31 + 1 34.04 — 0 8.59
	Weisse 2, VII, 1143	44.5	. .	10.6					Δ ρ .00 — .02
		48.6	57.4	6.5	57 57.52	2 41.618	1 35.68	0.710	p — .25 + 2.40
	Leda	20.4	. .	46.4					
		24.4	32.8	42.0	3 59 33.20	2 42.328			
	Weisse 2, VII, 1143	4.6	. .	30.8					
		8.6	17.6	26.6	4 3 17.64	2 41.458	1 35.52	0.481	
	Leda	40.1	. .	6.2					
		44.3	53.1	2.1	4 53.16	2 41.939			
	Weisse 2, VII, 1143	10.3	. .	36.4					
		14.4	23.1	32.3	6 23.30	2 41.971	1 35.17	0.469	
	Leda	. .	. .	11.6					
		49.5	58.6	7.2	7 58.47	2 42.440			
	Weisse 2, VII, 1143	27.4	. .	53.6					
		31.5	40.5	49.4	51 40.48	2 43.251	1 33.40	0.628	
	Leda	0.6	. .	27.1					
		5.1	14.0	22.6	53 13.88	2 43.879			
	Weisse 2, VII, 1143	51.7	. .	17.8					
		55.8	4.9	13.8	54 4.80	2 43.229	1 33.22	0.500	
	Leda	25.2	. .	50.9					
		29.3	37.9	46.8	56 38.02	2 43.729			
	Weisse 2, VII, 1143	55.5	. .	21.6					
		59.6	8.5	17.7	58 8.58	2 43.460	1 33.20	0.700	
	Leda	28.9	. .	54.8					
		33.1	41.6	50.5	4 59 41.78	2 44.160			
	Weisse 2, VII, 1143	52.8	. .	19.2					
		57.1	6.1	14.9	5 1 6.02	2 43.471	1 32.98	0.471	
	Leda	26.2	. .	52.1					
		30.0	38.7	48.0	2 39.00	2 43.941			
	Weisse 2, VII, 1143	13.6	. .	40.1					
		18.0	26.9	35.8	4 26.88	2 43.430	1 32.88	0.455	
	Leda	46.8	. .	12.8					
		50.9	59.7	8.6	5 59.76	2 43.885			
	Weisse 2, VII, 1143	0.7	. .	26.8					
		5.1	13.7	22.8	7 13.82	2 43.490	+1 32.68	— 0.561	
	Leda	33.8	. .	59.4					
		37.9	46.4	55.0	5 8 46.50	2 44.051			
Jan. 26 H.	Weisse 2, VII, 1022	51.8	0.7	9.4	4 38 0.63	3 34.684	+0 31.47	— 1.050	
	Leda	23.3	32.1	40.9	38 32.10	3 35.734			
	Weisse 2, VII, 1022	37.3	46.1	55.2	40 46.20	3 34.773	0 31.50	0.861	
	Leda	8.8	17.8	26.5	41 17.70	3 35.634			
	Weisse 2, VII, 1022	1.7	10.3	19.3	43 10.43	3 34.737	0 31.50	1.187	
	Leda	33.1	41.9	50.8	43 41.93	3 35.924			
	Weisse 2, VII, 1022	59.7	8.4	17.2	46 8.43	3 34.838	0 31.47	1.134	
	Leda	31.1	39.9	48.7	46 39.90	3 35.972			
	Weisse 2, VII, 1022	23.0	31.7	40.7	48 31.80	3 34.900	0 31.13	1.053	
	Leda	54.1	2.8	11.9	49 2.93	3 35.953			
	Weisse 2, VII, 1022	53.4	2.3	11.2	51 2.30	3 34.830	+0 31.03	— 1.270	
	Leda	24.5	33.3	42.2	4 51 33.33	3 36.100			

(Continued.)

LEDA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1865.		s	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 26	Weisse 2, VII, 1022	3.9	12.7	21.6	4 54 12.73	3 34.897	+0 30.77	— 1.253
	Leda	34.7	43.2	52.6	54 43.50	3 36.150		
H.								
	Weisse 2, VII, 1022	47.8	56.3	5.3	56 56.47	3 35.055	0 30.90	1.367
	Leda	18.5	27.3	36.3	57 27.37	3 36.422		
	Weisse 2, VII, 1022	17.9	26.5	35.4	59 26.60	3 35.181	0 30.73	1.240
	Leda	48.5	57.2	6.3	4 59 57.33	3 36.421		
	Weisse 2, VII, 1022	59.6	8.2	17.3	5 2 8.37	3 35.100	0 30.50	1.174
	Leda	30.0	38.8	47.8	2 38.87	3 36.274		
	Weisse 2, VII, 1022	0.6	9.4	18.2	5 9.40	3 35.235	+0 30.50	— 1.057
	Leda	31.1	39.8	48.8	5 5 39.90	3 36.292		
		42.4	. .	8.0				
Feb. 2	Leda	46.6	54.9	4.1	4 59 55.20	2 31.080		
		35.5	. .	1.6				
H.	Weisse 2, VII, 915	39.6	48.6	57.7	5 1 48.60	3 37.183	—1 53.40	+ 18.888
		6.9	. .	32.5				
	Leda	10.8	19.5	28.5	3 19.64	2 31.092		
		0.2	. .	26.0				
	Weisse 2, VII, 915	4.2	13.0	22.2	5 13.12	3 37.326	1 53.48	19.019
		57.9	. .	23.9				
	Leda	2.3	11.2	20.0	7 11.06	2 31.055		
		52.0	. .	18.1				
	Weisse 2, VII, 915	56.1	5.0	13.9	9 5.02	3 37.215	1 53.96	18.945
		35.2	. .	1.6				
	Leda	39.8	48.5	57.7	10 48.56	2 31.320		
		29.5	. .	55.6				
	Weisse 2, VII, 915	33.6	42.4	51.2	12 42.46	3 37.614	1 53.90	19.079
		47.0	. .	12.8				
	Leda	51.0	59.9	8.8	16 59.90	2 31.380		
		. .	. .	7.2				
	Weisse 2, VII, 915	45.1	54.0	3.2	18 54.15	3 37.560	1 54.25	18.965
		2.5	. .	28.4				
	Leda	6.8	15.4	24.3	20 15.48	2 31.432		
		56.8	. .	22.9				
	Weisse 2, VII, 915	1.1	9.8	18.7	22 9.86	3 37.508	1 54.38	18.861
		16.3	. .	42.2				
	Leda	20.7	29.2	38.0	23 29.28	2 31.713		
		10.6	. .	36.7				
	Weisse 2, VII, 915	14.7	23.7	32.4	25 23.62	3 37.598	1 54.34	18.670
		15.6	. .	42.1				
	Leda	19.8	28.8	38.0	27 28.86	2 31.997		
		10.8	. .	36.6				
	Weisse 2, VII, 915	14.7	23.6	32.6	29 23.66	3 37.884	1 54.80	18.672
		39.7	. .	5.3				
	Leda	43.9	52.3	1.3	30 58.50	2 31.974		
		34.1	. .	0.1				
	Weisse 2, VII, 915	38.2	47.1	56.1	32 47.12	3 37.663	1 54.62	18.474
		12.4	. .	38.7				
	Leda	16.7	25.6	34.4	34 25.56	2 32.076		
		7.4	. .	33.6				
	Weisse 2, VII, 915	11.4	20.2	29.3	5 36 20.38	3 38.096	—1 54.82	+ 18.805

RESULTS.

m. s.
Corr. Chron. + 5 27.34

	α h. m. s.	δ ° ′ ″
Weisse 2, VII, 1022,	7 35 15.86	+21 12 54.71

Leda—Weisse 2, VII, 1022,

		Δ α m. s.	Δ δ ′ ″
Sid. T.	4 57 23.24	+ 0 31.04	— 0 17.62
	Δ ρ	.00	.00
	ρ —	0.22	+ 2.29

m. s.
Corr. Chron. + 5 48.87

	α h. m. s.	δ ° ′ ″
Weisse 2, VII, 915,	7 31 45.46	+20 55 55.70

Leda—Weisse 2, VII, 915,

		Δ α m. s.	Δ δ ′ ″
Sid. T.	5 23 17.47	— 1 54.19	+ 4 48.92
	Δ ρ	.00	+ .09
	ρ —	.17	+ 2.12

DORIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Jan. 20		54.3	. .	19.1					Corr. Chron. + 5 9.44
	Doris	58.3	6.5	15.2	5 29 6.68	4 38.939			α δ
F.		31.6	. .	56.5					h. m. s. ° ′ ″
	Weisse VII, 1624 .	35.7	. .	52.6	30 44.10	5 38.179	−1 37.42	+ 16.248	Weisse VII, 1624, 7 55 55.99 +11 43 13.60
		43.9	. .	8.5					
	Weisse VII, 1631 .	. .	. .	5.0	30 56.33	3 36.574			Doris—Weisse VII, 1624,
		32.9	. .	57.8					Δ α Δ δ
	Doris	36.7	45.2	53.8	35 45.28	4 39.170			h. m. s. m. s. ′ ″
		10.4	. .	35.3					Sid. T. 5 49 41.71 − 1 37.99 + 4 9.48
	Weisse VII, 1624 .	14.3	22.8	31.4	37 22.84	5 38.316	1 37.56	16.154	Δ ρ .00 + .11
									p − .12 + 2.08
		49.5	. .	14.3					
	Doris	53.6	1.9	10.3	39 1.92	4 39.232			
		27.5	. .	52.2					
	Weisse VII, 1624 .	31.6	39.8	48.2	40 39.86	5 38.404	1 37.94	16.180	
		49.6	. .	14.6					
	Doris	53.6	2.1	10.6	42 2.10	4 38.998			
		27.5	. .	53.5					
	Weisse VII, 1624 .	31.8	40.2	48.5	43 40.30	5 38.375	1 38.20	16.385	
		55.3	. .	20.1					
	Doris	59.0	7.8	16.1	5 59 7.66	4 39.272			
		33.5	. .	58.6					
	Weisse VII, 1624 .	37.5	46.2	54.8	6 0 46.12	5 38.590	1 38.46	16.326	
		57.4	. .	22.2					
	Doris	1.2	9.5	18.2	2 9.70	4 39.269			
		35.6	. .	0.6					
	Weisse VII, 1624 .	39.6	47.9	56.5	6 3 48.04	5 38.562	−1 38.34	+ 16.301	
									m. s.
Jan. 25	W* 133	47.7	56.2	4.2	4 37 56.03	3 42.925	+0 46.20	+ 10.521	Corr. Chron. + 5 24.39
	Weisse VII, 1459 .	1.6	9.9	19.0	38 10.17	5 43.839			α δ
F.	Doris	33.7	42.2	50.8	38 42.23	2 45.789			h. m. s. ° ′ ″
	Weisse VII, 1504 .	48.7	56.7	5.6	39 57.00	3 39.779			W* 133, 7 49 31.07 +12 2 33.74
		49.6	58.3	6.6	56 58.17	3 43.348	0 45.46	10.554	Doris—W* 133,
	Doris	35.3	43.5	52.1	4 57 43.63	2 46.079			Δ α Δ δ
									h. m. s. m. s. ′ ″
		10.1	18.5	27.1	5 1 18.57	3 43.695	0 45.20	10.240	Sid. T. 5 14 47.75 + 0 44.99 + 2 41.85
	Doris	55.4	3.5	12.4	2 3.77	2 46.240			Δ ρ .00 + .06
									p − .14 + 2.11
		58.2	6.8	15.1	8 6.70	3 43.882	0 45.07	10.594	
	Doris	43.3	51.5	0.5	9 51.77	2 46.073			
		14.7	23.4	32.0	10 23.37	3 44.147	0 44.76	10.722	
	Doris	59.4	8.4	16.6	11 8.13	2 46.210			
		13.3	21.7	30.5	12 21.83	3 44.021	0 44.87	10.487	
	Doris	58.4	6.6	15.1	13 6.70	2 46.319			
		15.4	23.8	32.1	15 23.77	3 44.220	0 44.86	10.723	
	Doris	0.5	8.4	17.0	16 8.63	2 46.282			
		5.5	14.0	22.9	18 14.13	3 44.221	0 44.70	10.694	
	Doris	50.5	58.7	7.3	18 58.83	2 46.312			
		56.7	5.6	14.1	21 5.47	3 44.200	0 44.30	10.563	
	Doris	41.6	49.6	58.1	21 49.77	2 46.422			
		27.4	35.5	44.3	23 35.73	3 44.299	+0 44.50	+ 10.432	
	Doris	11.9	20.1	28.7	5 24 20.23	2 46.652			
Jan. 26		7.1							
	Doris	10.9	19.1	27.4	5 48 19.18	5 34.713			
H.		16.4	. .	41.4					
	Weisse VII, 1477 .	20.6	29.0	37.3	49 28.94	1 39.047	−1 9.76	− 55.667	
		51.4	. .	16.2					
	Doris	55.6	3.8	12.1	51 3.82	5 34.570			
		1.4	. .	26.2					
	Weisse VII, 1477 .	5.3	13.6	22.3	5 52 13.76	1 38.967	−1 9.94	− 55.604	

(Continued.)

DORIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865.		24.9	. .	49.4					Corr. Chron. + 5 27.71
Jan. 26	Doris	29.0	37.2	45.6	5 53 37.22	5 34.672			α δ
H.		34.8	. .	59.7					h. m. s. ° ′ ″
	Weisse VII, 1477 .	38.9	47.3	55.8	54 47.30	1 39.067	—1 10.08	— 55.606	Weisse VII, 1477 7 50 37.20 +12 23 6.67
		54.0	. .	18.7					Doris—Weisse VII, 1477,
	Doris	58.0	6.2	14.7	57 6.32	5 34.721			Δ α Δ δ
		4.2	. .	29.0					h. m. s. m. s. ′ ″
	Weisse VII, 1477 .	8.0	16.5	25.0	5 58 16.54	1 39.370	1 10.22	55.352	Sid. T. 6 7 15.77 — 1 10.29 —14 10.18
									Δ ρ .00 — .31
		1.6	. .	26.5					p — .10 + 2.02
	Doris	5.3	13.9	22.5	6 0 13.96	5 34.666			
		11.9	. .	36.5					
	Weisse VII, 1477 .	15.8	24.0	32.5	1 24.14	1 39.335	1 10.18	55.332	
		30.6	. .	55.7					
	Doris	34.8	43.0	51.7	3 43.16	5 34.656			
		41.2	. .	6.0					
	Weisse VII, 1477 .	45.0	53.4	2.0	4 53.52	1 39.373	1 10.36	55.284	
		30.0	. .	55.0					
	Doris	34.0	42.4	51.0	6 42.48	5 34.754			
		40.6	. .	5.2					
	Weisse VII, 1477 .	44.3	53.0	1.3	7 52.88	1 39.330	1 10.40	55.425	
		2.7	. .	28.0					
	Doris	6.8	15.2	23.6	9 15.26	5 34.885			
		13.4	. .	38.3					
	Weisse VII, 1477 .	17.2	25.9	34.3	10 25.82	1 39.520	1 10.56	55.366	
		25.0	. .	49.8					
	Doris	28.9	37.2	45.8	12 37.34	5 35.000			
		35.4	. .	0.3					
	Weisse VII, 1477 .	39.5	48.0	56.3	13 47.90	1 39.603	1 10.56	55.398	
		9.3	. .	34.5					
	Doris	13.4	21.6	30.4	15 21.84	5 35.038			
		20.2	. .	45.2					
	Weisse VII, 1477 .	24.2	32.8	41.2	6 16 32.72	1 39.742	—1 10.88	— 55.297	

COMET, 1864, IV, (BŒKER'S.)

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 25		38.4	. .	2.6					m. s.
	Lalande 45028 . .	42.2	50.5	58.7	3 27 50.48	1 46.655	+3 46.37	+ 44.938	Corr. Chron. + 5 24.37
F.		56.5	. .	20.6					α δ
	(* 9)	. .	8.2	16.7	28 8.43	—1 40.″ p *			h. m. s. ° ′ ″
		24.9	. .	48.8					Lalande 45028, 22 54 49.38 — 4 33 33.81
	Comet	. .	36.8	45.2	31 36.85	4 48.600			Comet—Lalande 45028,
									Δ α Δ δ
		6.7	. .	30.8					h. m. s. m. s. ′ ″
	Lalande 45028 . .	10.5	18.8	27.1	35 18.78	1 45.549	3 48.30	44.504	Sid. T. 3 49 7.90 + 3 49.29 —11 26.00
		24.7	. .	49.3					Δ ρ + .17 — 2.50
	(* 9)	28.6	36.8	45.5	35 36.98				p + .27 + 3.47
		55.0	. .	19.3					
	Comet	58.8	7.2	15.1	39 7.08	4 47.060			
		14.5	. .	39.1					
	Lalande 45028 . .	18.7	26.5	34.9	40 26.74	1 44.389	3 49.12	+ 44.690	
		32.7	. .	57.1					
	(* 9)	36.2	44.9	53.2	40 44.82				
		3.7	. .	28.3					
	Comet	7.6	15.5	24.2	44 15.86	4 46.086			
		18.0	. .	42.3					
	Lalande 45028 . .	21.9	30.0	38.7	45 30.18	1 43.100	3 50.70	— 44.542	
		8.8	. .	33.3					
	Comet	12.8	20.7	28.8	49 20.88	4 44.649			
		12.8	. .	37.2					
	Lalande 45028 . .	16.6	25.3	33.2	50 25.02	1 41.502	+3 51.98	— 44.961	
		4.5	. .	29.6					
	Comet	8.9	16.8	25.2	3 54 17.00	4 43.490			
Jan. 26		0.0	. .	24.7					
	Weisse XXII, 1223	4.0	12.2	20.9	3 11 12.36	4 33.127	+5 13.24	+ 34.702	m. s.
H.		13.6	. .	38.0					Corr. Chron. + 5 27.37
	Weisse XXII, 1248	17.3	25.4	34.0	12 25.66	3 34.657	3 59.94	23.155	α δ
		13.2	. .	38.1					h. m. s. ° ′ ″
	Comet	17.3	25.5	33.9	16 25.60	1 41.418			Weisse XXII 1223, 22 58 29.11 — 4 58 35.56
									Weisse XXII, 1248, 22 59 42.25 — 4 55 39.35
		9.3	. .	34.0					Comet—Weisse XXII, 1223,
	Weisse XXII, 1223	13.3	21.5	30.0	18 21.62	4 32.273	5 14.62	34.364	Δ α Δ δ
		22.7	. .	47.0					h. m. s. m. s. ′ ″
	Weisse XXII, 1248	26.4	34.6	43.0	19 34.74	3 33.945	4 1.50	22.959	Sid. T. 3 36 57.44 + 5 16.33 + 8 47.25
		24.1	. .	48.4					Δ ρ — .08 + 1.20
	Comet	27.9	36.2	44.6	23 36.24	1 40.902			p + .26 + 3.48
									Comet—Weisse XXII, 1248,
		20.2	. .	44.9					h. m. s.
	Weisse XXII, 1223	24.1	32.6	41.1	26 32.58	4 30.938	5 16.40	34.179	Sid. T. 3 36 57.44 + 4 3.22 + 5 51.62
		33.4	. .	57.8					Δ ρ — .05 + .80
	Weisse XXII, 1248	37.3	45.4	53.9	27 45.56	3 32.624	4 3.42	22.788	p + .26 + 3.48
		36.6	. .	1.3					
	Comet	40.8	48.9	57.3	31 48.98	1 39.752			
		28.3	. .	52.5					
	Weisse XXII, 1223	32.0	40.2	48.6	33 40.32	3 43.141	5 17.82	34.361	
		41.2	. .	5.8					
	Weisse XXII, 1248	45.0	53.3	1.8	34 53.42	3 31.755	4 4.72	22.975	
		46.1	. .	10.2					
	Comet	49.9	58.1	6.4	38 58.14	1 38.696			
		9.7	. .	34.0					
	Weisse XXII, 1223	13.5	21.7	30.2	41 21.82	3 41.762	5 19.58	34.278	
		22.6	. .	47.2					
	Weisse XXII, 1248	26.6	34.8	43.3	42 34.90	3 30.235	+4 6.50	+ 22.751	
		29.0	. .	53.5					
	Comet	33.3	41.1	50.1	3 46 41.40	1 37.400			

COMET, 1864, IV, (BŒKER'S.)

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Jan. 30		49.3	. .	13.8					Corr. Chron. + 5 39.36
	B. A. C. 8184 . .	53.4	1.5	9.7	3 16 1.54	4 36.641	+1 4.16	+ 41.306	α h. m. s. δ ° ′ ″
F.		53.3	. .	18.1					
	Comet	57.2	5.7	14.2	17 5.70	1 38.328			B. A. C. 8184, 23 22 33.19 — 5 16 01.57
		31.2	. .	55.5					
	B. A. C. 8184 . .	35.3	43.4	51.7	18 43.42	4 36.360	1 4.88	41.544	Comet—B. A. C. 8184,
		35.7	. .	0.7					Δ α Δ δ
	Comet	40.1	48.4	56.6	19 48.30	1 37.829			h. m. s. m. s. ′ ″
		55.2	. .	19.3					Sid. T. 3 36 10.31 + 1 6.84 +10 36.38
	B. A. C. 8184 . .	58.8	7.0	15.5	22 7.16	4 36.205	1 5.22	41.457	Δ ρ — .06 + 1.08
		0.2	. .	24.6					ρ + .24 + 4.29
	Comet	3.9	12.3	20.9	23 12.38	1 37.741			
		41.9	. .	6.2					
	B. A. C. 8184 . .	45.5	53.9	2.6	24 54.02	4 35.939	1 6.06	41.607	
		47.8	. .	12.3					
	Comet	51.8	0.2	8.3	26 0.08	1 37.325			
		57.8	. .	22.2					
	B. A. C. 8184 . .	1.8	10.2	18.5	27 10.10	4 35.780	1 6.36	41.463	
		4.2	. .	28.6					
	Comet	8.2	16.7	24.6	28 16.46	1 37.310			
		52.3	. .	16.5					
	B. A. C. 8184 . .	55.8	4.1	12.8	30 4.30	4 35.572	1 7.04	41.926	
		59.2	. .	23.6					
	Comet	3.2	11.1	19.6	31 11.34	1 36.639			
		51.0	. .	16.7					
	B. A. C. 8184 . .	55.3	. .	11.8	34 3.70	4 35.091	1 7.48	41.479	
		59.0	. .	23.2					
	Comet	2.9	11.2	19.6	35 11.18	1 36.605			
		23.7	. .	48.3					
	B. A. C. 8184 . .	27.6	35.8	44.3	36 35.94	4 34.811	1 8.24	41.580	
		31.8	. .	56.5					
	Comet	35.7	44.2	52.7	37 44.18	1 36.224			
		7.6	. .	32.0					
	B. A. C. 8184 . .	11.5	19.7	27.9	40 19.74	4 34.351	1 9.18	41.269	
		16.9	. .	41.2					
	Comet	20.8	28.8	36.9	41 28.92	1 36.075			
		49.7	. .	14.1					
	B. A. C. 8184 . .	53.4	1.8	10.1	44 1.82	4 33.851	+1 9.78	+ 41.303	
		59.1	. .	23.8					
	Comet	3.2	11.7	20.2	3 45 11.60	1 35.541			
		57.0	. .	21.5					
Feb. 2	Comet	1.3	9.2	18.1	3 33 9.42	3 32.604			
		49.0	. .	13.4					
H.	Lalande 46609 . .	52.9	1.3	9.6	36 1.24	3 40.351	—2 51.82	— 7.747	
		55.6	. .	19.9					
	Weisse XIII, 848 .	59.4	7.7	16.0	37 7.72	3 46.567	3 58.30	13.963	
		52.3	.	16.9					
	Comet	56.2	4.8	13.0	39 4.64	3 32.738			
		43.8	. .	7.6					
	Lalande 46609 . .	47.1	55.3	3.7	41 55.50	3 40.713	2 50.86	7.975	
		49.5	. .	14.0					
	Weisse XIII, 848 .	53.2	1.9	10.2	43 1.76	3 46.869	3 57.12	14.131	
		27.6	. .	52.3					
	Comet	31.5	40.1	48.4	45 39.98	3 33.115			
		17.3	. .	41.9					
	Lalande 46609 . .	21.4	29.6	38.0	48 29.64	3 41.220	2 49.66	8.105	
		23.9	. .	48.6					
	Weisse XIII, 848 .	27.9	36.1	44.6	3 49 36.22	3 47.319	—3 56.24	— 14.204	

(Continued.)

COMET, 1864, IV, (BŒKER'S.)

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 2		25.4	. .	50.0					m. s.
	Comet	29.5	37.6	45.9	3 51 37.68	3 33.638			Corr. Chron. + 5 48.34
H.		13.9	. .	38.6					α δ
	Lalande 46609 . .	17.7	26.3	34.8	54 26.26	3 41.766	—2 48.58	— 8.128	h. m. s. ° ′ ″
		20.5	. .	45.0					Lalande 46609, 23 40 42.83 — 5 12 38.73
	Weisse XXIII, 848	24.3	33.0	41.0	55 32.76	3 47.999	3 55.08	14.361	Weisse XXIII, 848, 23 41 49.26 — 5 11 6.98
									Comet—Lalande 46609,
		18.5	. .	43.2					Δ α Δ δ
	Comet	22.6	30.7	39.4	3 57 30.88	3 34.526			h. m. s. m. s. ′ ″
		6.0	. .	30.5					Sid. T. 3 57 27.09 — 2 48.47 — 2 2.99
	Lalande 46609 . .	9.9	18.3	26.5	4 0 18.24	3 42.498	2 47.36	7.972	Δ ρ + .01 — .22
		12.6	. .	37.0					p + .24 + 3.31
	Weisse XXIII, 848	16.5	24.8	33.0	1 24.78	3 48.521	3 53.90	13.995	Comet—Weisse XXIII, 848,
									h. m. s.
		2.0	. .	26.4					Sid. T. 3 57 27.09 — 3 54.94 — 3 37.70
	Comet	5.7	14.2	22.5	4 14.16	3 35.157			Δ ρ + .02 — 0.39
		48.1	. .	12.3					p + .24 + 3.31
	Lalande 46609 . .	51.9	0.2	8.6	7 0.22	3 43.324	2 46.06	8.167	
		54.2	. .	19.0					
	Weisse XXIII, 848	58.2	6.7	15.0	8 6.62	3 49.555	3 52.46	14.398	
		2.4	. .	26.9					
	Comet	6.2	14.3	22.6	10 14.46	3 36.145			
		46.7	. .	11.8					
	Lalande 46609 . .	51.0	59.6	7.8	12 59.38	3 44.184	2 44.92	8.039	
		. .	. .	18.3					
	Weisse XXIII, 848	57.6	6.1	14.4	4 14 6.00	3 50.454	—3 51.54	— 14.309	
		50.0	. .	14.3					
Feb. 4									m. s.
	Weisse XXIII, 848	53.7	2.0	10.4	3 36 2.08	3 43.318	+5 9.16	— 34.403	Corr. Chron. + 5 54.14
		59.1	. .	23.4					α δ
H.	Comet	2.9	11.2	19.6	41 11.24	1 38.831			h. m. s. ° ′ ″
									Weisse XXIII, 848, 23 41 49.25 — 5 11 7.02
		58.5	. .	23.1					
	Weisse XXIII, 848	2.6	10.9	19.2	44 10.86	3 43.835	5 10.78	34.508	Comet—Weisse XXIII, 848,
		9.3	. .	34.0					Δ α Δ δ
	Comet	13.2	21.6	30.1	49 21.64	1 39.243			h. m. s. m. s. ′ ″
									Sid. T. 4 2 21.18 + 5 12.01 — 8 47.46
		44.2	. .	8.6					Δ ρ + .05 — 0.85
	Weisse XXIII, 848	48.1	56.6	4.7	50 56.44	3 44.363	5 11.92	34.458	p + .23 + 3.26
		56.3	. .	20.4					
	Comet	0.1	8.4	16.6	56 8.36	1 39.821			
		33.5	. .	58.1					
	Weisse XXIII, 848	37.3	45.9	54.1	3 58 45.78	3 45.119	5 13.26	34.170	
		46.7	. .	11.2					
	Comet	50.5	59.5	7.3	4 3 59.04	1 40.865			
		7.8	. .	32.2					
	Weisse XXIII, 848	11.7	20.0	28.2	6 19.98	3 45.984	+5 14.92	— 34.414	
		22.7	. .	47.1					
	Comet	26.6	34.9	43.2	4 11 34.90	1 41.486			
									m. s.
Feb. 6	Comet	38.9	47.2	55.5	4 13 47.20	1 36.288			Corr. Chron. + 6 0.20
	Weisse XXIII, 1163	2.6	10.8	19.3	15 10.90	5 39.979	—1 23.70	+ 63.692	α δ
F.									h. m. s. ° ′ ″
	Weisse XXIII, 1099	15.7	24.1	32.3	19 24.03	5 38.890	+1 48.94	63.349	Weisse XXIII, 1099, 23 54 5.02 — 5 40 39.02
	Comet	4.6	13.1	21.2	21 12.97	1 35.542			Comet—Weisse XXIII, 1099,
									Δ α Δ δ
	Weisse XXIII, 1099	5.5	13.8	22.4	23 13.90	5 38.221	1 48.77	63.034	h. m. s. m. s. ′ ″
	Comet	54.4	2.5	11.1	25 2.67	1 35.188			Sid. T. 4 31 4.67 + 1 49.58 +16 10.28
									Δ ρ — .17 + 2.48
	Weisse XXIII, 1099	59.5	7.8	16.2	27 7.83	5 37.692	+1 49.94	+ 63.404	p + .23 + 3.18
	Comet	49.3	57.8	6.2	4 28 57.77	1 34.289			

COMET, 1864, IV, (BŒKER'S.)

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 13		39.2	. .	3.9					m. s.
	Comet	43.2	51.7	59.4	4 28 51.48	5 38.452			Corr. Chron. + 6 17.93
F.		29.9	. .	54.3					α δ
	B. A. C. 138 . .	33.5	42.0	50.4	31 42.02	1 34.900	—2 50.54	— 63.553	h. m. s. ° ′ ″
		6.6	. .	31.3					B. A. C. 138, 0 27 37.24 — 5 17 30.22
	Comet	11.2	19.0	27.5	34 19.12	5 38.138			Comet—B. A. C. 138,
		56.3	. .	20.7					Δ α Δ δ
	B. A. C. 138 . .	0.2	8.5	16.8	37 8.50	1 34.208	2 49.38	63.931	h. m. s. m. s. ′ ″
		20.5	. .	44.6					Sid. T. 4 47 10.71 — 2 48.33 —16 15.66
	Comet	24.6	32.6	40.9	38 32.64	5 37.349			Δ ρ + .12 — 1.84
		8.9	. .	33.4					p + .22 + 3.02
	B. A. C. 138 . .	12.8	21.1	29.4	41 21.12	1 33.595	2 48.48	63.755	
		4.0	. .	27.8					
	Comet	8.1	15.6	24.2	43 15.94	5 36.810			
		51.8	. .	16.1					
	B. A. C. 138 . .	56.0	3.8	12.5	46 4.04	1 33.335	2 48.10	63.476	
		44.0	. .	8.8					
	Comet	48.4	56.3	4.8	47 56.46	5 36.161			
		31.5	. .	56.0					
	B. A. C. 138 . .	35.3	43.6	52.0	50 43.68	1 32.659	2 47.22	63.503	
		8.7	. .	33.3					
	Comet	13.2	20.8	29.2	52 21.04	5 35.418			
		55.3	. .	19.7					
	B. A. C. 138 . .	59.1	7.2	15.6	4 55 7.38	1 31.961	—2 46.34	— 63.458	
Feb. 14		5.6	. .	30.2					m. s.
	B. A. C. 138 . .	9.5	17.9	26.1	4 18 17.86	5 45.314	+1 1.26	— 66.142	Corr. Chron. + 6 20.64
H.		7.4	. .	31.6					α δ
	Comet	10.4	18.8	27.4	19 19.12	1 39.173			h. m. s. ° ′ ″
		25.3	. .	50.0					B. A. C. 138, 0 27 37.23 — 5 17 30.22
	B. A. C. 138 . .	29.2	37.7	46.0	21 37.64	5 45.370	1 1.44	65.822	Comet—B. A. C. 138,
		27.1	. .	51.5					Δ α Δ δ
	Comet	30.3	39.3	47.2	22 39.08	1 39.549			h. m. s. m. s. ′ ″
		43.4	. .	8.0					Sid. T. 4 41 48.43 + 1 3.62 —16 53.36
	B. A. C. 138 . .	47.2	55.7	4.0	28 55.66	5 45.899	1 2.74	66.021	Δ ρ + 0.10 — 1.62
		46.0	. .	11.0					p + 0.21 + 2.99
	Comet	49.9	58.5	6.6	29 58.40	1 39.879			
		36.2	. .	0.7					
	B. A. C. 138 . .	40.0	48.3	56.8	31 48.40	5 46.047	1 2.90	65.860	
		39.1	. .	4.0					
	Comet	42.8	51.2	59.4	32 51.30	1 40.188			
		57.2	. .	21.7					
	B. A. C. 138 . .	0.9	9.1	17.7	36 9.32	5 46.474	1 4.08	66.067	
		1.4	. .	25.8					
	Comet	4.7	13.3	21.8	37 13.40	1 40.408			
		39.0	. .	5.2					
	B. A. C. 138 . .	42.6	50.8	59.3	38 50.98	5 46.688	1 4.46	66.088	
		43.4	. .	7.7					
	Comet	46.6	55.7	3.8	39 55.44	1 40.601			
		31.7	. .	56.2					
	B. A. C. 138 . .	35.6	44.0	52.3	41 43.96	5 46.916	1 4.78	66.207	
		36.5	. .	1.1					
	Comet	40.5	48.5	57.1	42 48.74	1 40.710			
		32.2	. .	57.0					
	B. A. C. 138 . .	36.1	44.7	52.8	44 44.56	5 47.183	1 5.18	66.310	
		37.9	. .	1.9					
	Comet	41.4	49.7	57.8	45 49.74	1 40.874			
		16.8	. .	41.4					
	B. A. C. 138 . .	21.0	29.0	37.4	47 29.12	5 47.587	+1 5.76	— 66.121	
		22.3	. .	47.1					
	Comet	26.3	35.0	43.7	4 48 34.88	1 41.467			

COMET, 1864, IV, (BŒKER'S.)

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Feb. 20		18.0	. .	42.5					Corr. Chron. — 3 4.80
	Comet	22.2	30.0	38.3	5 22 30.20	3 38.941			α δ
F.		36.7	. .	1.5					h. m. s. ° ′ ″
	B. A. C. 291 . . .	41.4	49.6	57.6	27 49.36	2 43.383	—5 19.16	— 8.343	B. A. C. 291, 0 56 12.97 — 5 33 34.42
		15.8	. .	39.7					Comet—B. A. C. 291,
	Comet	19.8	27.7	36.1	31 27.82	3 38.850			Δ α Δ δ
		33.7	. .	57.9					h. m. s. m. s. ′ ″
	B. A. C. 291 . . .	37.8	45.7	54.1	36 45.84	2 42.932	5 18.02	8.703	Sid. T. 5 28 7.75 — 5 17.89 — 2 10.43
		27.6	. .	51.5					Δ ρ — .02 — .30
	Comet	31.6	39.5	47.9	39 39.62	3 37.012			p + .21 + 2.81
		43.8	. .	8.4					
	B. A. C. 291 . . .	47.7	56.3	4.4	5 44 56.12	2 41.330	—5 16.50	— 8.467	
									m. s.
Feb. 21	Weisse O, 935 . .	. .	0.6	. .	5 4 0.60	5 39.080	+0 11.30	— 50.560	Corr. Chron. — 3 2.86
	Comet	. .	11.9	. .	4 11.90	2 31.390			α δ
H.									h. m. s. ° ′ ″
	Weisse O, 935 . .	. .	34.9	. .	14 34.90	5 40.410	0 12.50	50.950	Weisse O, 935, 0 54 10.89 — 5 22 29.26
	Comet	. .	47.4	. .	14 47.40	2 32.330			Comet—Weisse O, 935,
	Weisse O, 935 . .	. .	34.4	. .	17 34.40	5 40.620	0 13.60	50.620	Δ α Δ δ
	Comet	. .	48.0	. .	17 48.00	2 32.870			h. m. s. m. s. ′ ″
	Weisse O, 935 . .	. .	34.7	. .	21 34.70	5 41.130	0 13.90	50.540	Sid. T. 5 15 1.24 + 0 13.37 —12 57.55
	Comet	. .	48.6	. .	21 48.60	2 33.460			Δ ρ + .09 — 1.46
									p + .20 + 2.81
	Weisse O, 935 . .	. .	43.7	. .	23 43.70	5 41.320	0 14.10	51.000	
	Comet	. .	57.8	. .	23 57.80	2 33.190			
	Weisse O, 935 . .	. .	36.1	. .	25 36.10	5 41.500	+0 14.80	— 50.510	
	Comet	. .	50.9	. .	5 25 50.90	2 33.860			

ANGELINA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. Feb. 2 H.		41.0	. .	6.9					m. s. Corr. Chron. + 5 49.09
	Angelina . . .	45.1	53.9	3.0	6 48 53.98	3 42.692			α δ
		28.4	. .	54.3					h. m. s. ° ′ ″
	Weisse 2, VIII, 221	32.6	41.3	50.1	51 41.34	3 42.872	—2 47.36	+ 0.180	Weisse 2, VIII, 221, 8 11 12.60 +20 23 26.62
		50.9	. .	17.0					Angelina—Weisse 2, VIII, 221,
	Angelina . . .	55.0	4.0	12.6	54 3.90	3 42.869			Δ α Δ δ
		38.4	. .	4.6					h. m. s. m. s. ′ ″
	Weisse 2, VIII, 221	42.6	51.4	0.4	56 51.48	3 42.904	2 47.58	0.035	Sid. T. 7 16 10.29 — 2 48.27 + 0 3.86
		10.0	. .	35.9					Δ ρ .00 .00
	Angelina . . .	14.2	. .	31.9	6 58 23.00	3 42.780			p — .08 + 2.01
		57.9	. .	24.0					
	Weisse 2, VIII, 221	2.0	10.7	19.8	7 1 10.88	3 42.944	2 47.88	0.164	
		58.7	. .	24.5					
	Angelina . . .	2.6	11.4	20.4	3 11.52	3 42.773			
		46.7	. .	12.5					
	Weisse 2, VIII, 221	50.8	59.5	8.4	5 59.58	3 43.060	2 48.06	0.287	
		36.0	. .	2.1					
	Angelina . . .	40.2	49.0	58.0	7 49.06	3 42.876			
		24.2	. .	50.2					
	Weisse 2, VIII, 221	28.2	37.1	46.1	10 37.16	3 43.126	2 48.10	0.250	
		37.6	. .	3.2					
	Angelina . . .	41.4	50.2	59.1	12 50.30	3 42.957			
		25.8	. .	51.6					
	Weisse 2, VIII, 221	29.8	38.5	47.5	15 38.64	3 43.178	2 48.34	0.221	
		8.8	. .	34.7					
	Angelina . . .	12.9	21.7	30.3	17 21.68	3 42.995			
		57.3	. .	23.0					
	Weisse 2, VIII, 221	1.4	10.2	19.0	20 10.18	3 43.373	2 48.50	0.378	
		19.6	. .	45.6					
	Angelina . . .	24.0	32.8	42.0	22 32.80	3 43.117			
		8.6	. .	34.6					
	Weisse 2, VIII, 221	12.7	21.3	30.4	25 21.52	3 43.372	2 48.72	0.255	
		45.2	. .	11.0					
	Angelina . . .	49.3	58.0	6.9	26 58.08	3 43.022			
		34.2	. .	0.0					
	Weisse 2, VIII. 221	38.1	47.0	56.0	29 47.06	3 43.427	2 48.98	0.405	
		14.9	. .	40.9					
	Angelina . . .	19.0	27.7	36.7	31 27.84	3 43.089			
		4.0	. .	30.1					
	Weisse 2, VIII, 221	8.1	17.0	26.0	7 34 17.04	3 43.390	—2 49.20	+ 0.301	
Feb. 6 F.	Angelina . . .	56.4	5.1	14.1	4 56 5.20	4 41.883			m. s. Corr. Chron. + 6 0.44
	Weisse 2, VIII, 83	25.3	34.3	43.2	56 34.27	1 44.535	—0 29.07	— 40.341	α δ
	Angelina . . .	49.6	58.5	7.2	58 58.43	4 41.925			h. m. s. ° ′ ″
	Weisse 2, VIII, 83	18.5	27.2	36.2	4 59 27.30	1 44.445	0 28.87	40.473	Weisse 2, VIII, 83, 8 5 33.63 +20 40 54.65
	Angelina . . .	18.8	27.5	36.5	5 2 27.60	4 41.998			Angelina—Weisse 2, VIII, 83,
	Weisse 2, VIII, 83	47.9	56.9	5.6	2 56.80	1 44.642	0 29.20	40.349	Δ α Δ δ
	Angelina . . .	42.8	51.5	0.3	6 51.53	4 41.950			h. m. s. m. s. ′ ″
	Weisse 2, VIII, 83	11.8	20.6	29.2	7 20.53	1 44.585	0 29.00	40.358	Sid. T. 5 27 5.12 — 0 29.77 —10 18.20
	Angelina . . .	7.8	16.8	25.7	9 16.77	4 42.073			Δ ρ .00 — .21
	Weisse 2, VIII, 83	37.4	46.1	55.1	9 46.20	1 44.679	0 29.43	40.387	p — .22 + 2.31
	Angelina . . .	22.1	30.9	39.7	12 30.90	4 42.002			
	Weisse 2, VIII, 83	51.3	0.2	9.1	13 0.20	1 44.567	0 29.30	40.428	
	Angelina . . .	28.6	37.6	46.2	15 37.47	4 42.088			
	Weisse 2, VIII, 83	58.2	7.2	16.1	16 7.17	1 44.595	0 29.90	40.436	
	Angelina . . .	4.8	13.5	22.2	21 13.50	4 42.002			
	Weisse 2, VIII, 83	34.4	43.3	52.3	21 43.33	1 44.681	0 29.83	40.314	
	Angelina . . .	2.3	11.2	20.2	25 11.23	4 42.206			
	Weisse 2, VIII, 83	32.2	41.1	50.0	5 25 41.10	1 44.921	0 29.87	40.278	
	Angelina . . .	51.0	59.8	8.8	6 10 9.87	4 42.693			
	Weisse 2, VIII, 83	22.6	31.4	40.4	10 31.47	1 45.592	0 31.60	40.094	
	Angelina . . .	20.1	28.9	37.8	13 28.93	4 42.612			
	Weisse 2, VIII, 83	51.6	0.8	9.3	6 14 0.57	1 45.743	—0 31.64	— 39.862	

VESTA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Mar. 10	Weisse XI, 785 . .	38.7	47.2	55.8	8 41 47.23	1 40.511	+1 44.50	— 51.962	Corr. Chron. — 2 44.91
	Vesta	23.2	31.7	40.3	43 31.73	5 32.472			α δ
F.									h. m. s. ° ′ ″
	Weisse XI, 785 . .	36.3	44.8	53.5	45 44.87	1 40.461	1 44.36	51.941	Weisse XI, 785, 11 46 1.86 +14 10 5.02
	Vesta	20.7	29.2	37.8	47 29.23	5 32.401			
									Vesta—Weisse XI, 785,
	Weisse XI, 785 . .	30.2	38.6	47.3	48 38.70	1 40.530	1 44.60	51.927	Δ α Δ δ
	Vesta	14.6	23.6	31.7	50 23.30	5 32.456			h. m. s. m. s. ′ ″
									Sid. T. 8 55 5.67 + 1 44.08 —13 13.16
	Weisse XI, 785 . .	49.5	58.1	6.4	51 58.00	1 40.810	1 44.30	51.794	Δ ρ .00 — .32
	Vesta	33.8	42.2	50.9	53 42.30	5 32.603			ρ — .24 + 3.05
	Weisse XI, 785 . .	27.6	36.2	44.9	54 36.23	1 40.747	1 44.20	51.827	
	Vesta	11.8	20.5	29.0	56 20.43	5 32.573			
	Weisse XI, 785 . .	27.7	36.4	44.8	57 36.30	1 40.953	1 43.90	51.697	
	Vesta	11.4	20.3	28.9	8 59 20.20	5 32.649			
	Weisse XI, 785 . .	43.1	51.5	0.3	9 0 51.63	1 40.952	1 44.07	51.560	
	Vesta	27.2	35.6	44.3	2 35.70	5 32.511			
	Weisse XI, 785 . .	34.3	42.8	51.5	3 42.87	1 40.962	1 43.76	51.608	
	Vesta	18.3	26.5	35.1	5 26.63	5 32.569			
	Weisse XI, 785 . .	32.1	40.6	49.1	6 40.60	1 41.108	1 43.60	51.495	
	Vesta	15.6	24.2	32.8	8 24.20	5 32.602			
	Weisse XI, 785 . .	20.1	28.5	37.1	9 28.57	1 41.209	+1 43.56	— 51.341	
	Vesta	3.7	12.1	20.6	9 11 12.13	5 32.549			

PALES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865. Mar. 18		41.9	. .	6.6					Corr. Chron. — 2 29.51
H.	Pales	46.0	54.2	2.9	8 19 54.32	2 43.402			α δ
		38.3	. .	2.5					h. m. s. ° ′ ″
	Weisse X, 664 . .	42.1	50.6	58.8	21 50.46	2 46.511	—1 56.14	+ 3.109	Weisse X, 664, 10 38 2.62 + 5 2 32.01
		51.4	. .	16.2					
	Pales	55.6	3.7	12.2	23 3.82	2 43.854			Pales—Weisse X, 664,
		48.0	. .	12.4					Δ α Δ δ
	Weisse X, 664 . .	52.0	0.1	8.4	25 0.18	2 46.559	1 56.36	2.705	h. m. s. m. s. ′ ″
		4.0	. .	28.6					Sid. T. 8 34 33.00 — 1 56.77 + 0 44.50
	Pales	7.9	16.2	24.7	26 16.28	2 43.784			Δ ρ .00 — .02
		0.6	. .	24.9					p — .09 + 1.91
	Weisse X, 664 . .	4.3	12.6	21.1	28 12.70	2 46.658	1 56.42	2.874	
		27.2	. .	51.8					
	Pales	31.5	39.3	48.1	30 39.58	2 43.905			
		24.3	. .	48.5					
	Weisse X, 664 . .	28.1	36.1	44.4	32 36.28	2 46.700	1 56.70	2.795	
		11.4	. .	35.8					
	Pales	15.2	23.5	32.0	34 23.58	2 43.815			
		8.3	. .	32.5					
	Weisse X, 664 . .	12.1	20.2	28.6	36 20.34	2 46.796	1 56.76	2.981	
		56.4	. .	23.0					
	Pales	2.3	10.8	19.3	40 10.76	2 43.990			
		55.4	. .	19.9					
	Weisse X, 664 . .	59.3	7.6	16.0	42 7.64	2 46.853	1 56.88	2.863	
		16.8	. .	41.2					
	Pales	20.8	29.1	37.1	43 29.00	2 44.067			
		13.8	. .	38.2					
	Weisse X, 664 . .	17.6	26.0	34.3	45 25.98	2 46.925	1 56.98	2.858	
		33.9	. .	58.1					
	Pales	37.7	46.0	54.3	46 46.00	2 44.109			
		31.0	. .	55.4					
	Weisse X, 664 . .	34.9	43.2	51.5	48 43.20	2 46.995	1 57.20	2.886	
		39.3	. .	3.8					
	Pales	43.3	51.4	59.9	50 51.54	2 43.886			
		36.4	. .	0.9					
	Weisse X, 664 . .	40.3	48.6	57.2	52 48.68	2 47.042	1 57.14	3.156	
		38.1	. .	2.4					
	Pales	41.9	50.2	58.6	54 50.24	2 44.073			
		35.3	. .	59.6					
	Weisse X, 664 . .	39.1	47.4	55.6	8 56 47.40	2 47.060	—1 57.16	+ 2.987	

FLORA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Mar. 18		32.9	. .	57.4					Corr. Chron. — 2 29.43
	Flora	36.6	45.0	53.6	9 14 45.10	2 31.970			α δ
H.		12.5	. .	37.3					h. m. s. ° ′ ″
	Santini 830 . . .	16.7	25.0	33.5	16 25.00	5 31.242	—1 39.90	+ 42.142	Santini 830, 12 4 10.62 + 9 27 49.21
		22.8	. .	47.2					Flora—Santini 630,
	Flora	26.7	35.0	43.3	18 35.00	2 32.036			Δ α Δ δ
		2.6	. .	27.1					h. m. s. m. s. ′ ″
	Santini 830 . . .	6.7	15.0	23.3	20 14.94	5 31.138	1 39.94	. 41.972	Sid. T. 9 27 57.82 — 1 40.53 +10 47.73
									Δ ρ .00 + .28
		46.5	. .	11.1					ρ — .19 + 3.08
	Flora	50.4	59.0	7.2	21 58.84	2 32.030			
		26.7	. .	51.3					
	Santini 830 . . .	30.7	39.1	47.6	23 39.08	5 31.225	1 40.24	. 42.065	
		19.0	. .	43.5					
	Flora	22.8	31.2	39.7	25 31.24	2 32.026			
		59.1	. .	23.8					
	Santini 830 . . .	3.1	11.4	19.9	27 11.46	5 31.282	1 40.22	42.126	
		53.9	. .	18.1					
	Flora	57.6	6.0	14.5	29 6.02	2 32.036			
		34.2	. .	58.9					
	Santini 830 . . .	38.2	46.5	55.0	30 46.56	5 31.298	1 40.54	42.132	
		19.2	. .	43.8					
	Flora	22.9	31.4	40.0	32 31.46	2 32.038			
		59.8	. .	24.2					
	Santini 830 . . .	3.8	12.0	20.5	34 12.06	5 31.388	1 40.60	. 42.220	
		20.1	. .	44.8					
	Flora	24.2	32.4	41.0	35 32.50	2 32.043			
		1.0	. .	25.6					
	Santini 830 . . .	4.9	13.1	21.8	37 13.28	5 31.530	1 40.78	42.357	
		58.7	. .	23.2					
	Flora	2.5	11.0	19.3	39 10.94	2 32.016			
		39.6	. .	4.2					
	Santini 830 . . .	43.4	51.8	0.3	40 51.86	5 31.555	1 40.92	. 42.409	
		57.4	. .	22.0					
	Flora	1.3	9.8	18.1	42 9.72	2 32.057			
		38.4	. .	3.1					
	Santini 830 . . .	42.2	50.8	59.1	43 50.72	5 31.588	1 41.00	42.401	
		59.4	. .	24.0					
	Flora	3.4	11.7	20.1	45 11.72	2 32.055			
		40.5	. .	5.3					
	Santini 830 . . .	44.5	52.9	1.1	9 46 52.86	5 31.695	—1 41.14	+ 42.510	

HEBE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865.		23.7	. .	48.2					Corr. Chron. — 2 21.36
Mar. 23	Weisse XII, 497 .	27.6	35.8	44.3	9 52 35.92	3 39.358	+0 9.86	— 5.478	α δ
H.		33.6	. .	58.1					h. m. s. ° ′ ″
	Hebe	37.3	45.8	54.1	52 45.78	3 44.836			Weisse XII, 497, 12 30 36.27 +12 43 20.19
		41.5	. .	6.2					
	Weisse XII, 497 .	45.6	53.8	2.4	55 53.90	3 39.436	0 9.80	5.412	Hebe—Weisse XII, 487,
		51.7	. .	16.1					Δ α Δ δ
	Hebe	55.2	3.5	12.0	56 3.70	3 44.848			h. m. s. m. s. ′ ″
									Sid. T. 10 0 18.22 + 0 9.58 — 1 19.74
		40.6	. .	5.6					Δ ρ .00 — .03
	Weisse XII, 497 .	44.7	52.9	1.7	58 53.10	3 39.515	0 9.76	5.304	ρ — .14 + 2.05
		50.4	. .	15.3					
	Hebe	54.5	2.7	11.4	9 59 2.86	3 44.819			
		1.6	. .	26.3					
	Weisse XII, 497 .	5.7	13.9	22.7	10 0 14.04	3 39.530	0 9.74	5.253	
		11.3	. .	36.0					
	Hebe	15.7	23.7	32.2	0 23.78	3 44.783			
		44.3	. .	9.3					
	Weisse XII, 497 .	48.4	56.8	5.5	3 56.86	3 38.486	0 9.58	5.182	
		54.1	. .	18.7					
	Hebe	57.9	6.4	15.1	3 6.44	3 43.668			
		58.6	. .	23.7					
	Weisse XII, 497 .	2.8	11.3	19.8	7 11.24	3 38.550	0 9.44	5.013	
		8.3	. .	33.0					
	Hebe	12.2	20.6	29.2	7 20.66	3 43.563			
		42.1	. .	7.3					
	Weisse XII, 497 .	46.2	54.7	3.2	9 54.70	3 38.713	0 9.34	4.967	
		51.7	. .	16.4					
	Hebe	55.6	4.2	12.3	10 4.04	3 43.680			
		7.8	. .	32.9					
	Weisse XII, 497 .	11.8	20.2	28.8	12 20.30	3 38.734	+0 9.14	— 4.980	
		17.1	. .	41.8					
	Hebe	21.0	29.5	37.8	10 12 29.44	3 43.714			
		33.9	. .	59.0					
April 1	Weisse XII, 311 .	37.9	46.3	55.0	10 58 46.42	3 45.745	+2 57.06	+ 22.692	m. s.
H.		31.0	. .	56.0					Corr. Chron. — 2 8.22
	Hebe	35.0	43.4	52.0	11 1 43.48	2 35.838			α δ
									h. m. s. ° ′ ″
		3.0	. .	28.3					Weisse XII, 311, 12 20 4.66 +14 47 19.55
	Weisse XII, 311 .	7.1	15.6	24.3	3 15.66	3 45.824	2 56.92	22.811	
		0.1	. .	25.0					Hebe—Weisse XII, 311,
	Hebe	4.2	12.5	21.1	6 12.58	2 35.798			Δ α Δ δ
									h. m. s. m. s. ′ ″
		32.5	. .	57.7					Sid. T. 11 21 54.65 + 2 56.32 + 5 54.67
	Weisse XII, 311 .	36.5	44.9	53.7	7 45.06	3 46.007	2 56.64	22.993	Δ ρ .00 + .12
		29.3	. .	54.2					ρ — .06 + 1.81
	Hebe	33.1	41.7	50.2	10 41.70	2 35.799			
		41.3	. .	6.3					
	Weisse XII, 311 .	45.1	53.7	2.3	12 53.74	3 46.079	2 56.64	23.019	
		37.8	. .	3.1					
	Hebe	41.8	50.3	58.9	15 50.38	2 35.845			
		24.0	. .	49.0					
	Weisse XII, 311 .	28.0	36.5	45.0	17 36.50	3 46.061	2 56.46	23.006	
		20.4	. .	45.5					
	Hebe	24.4	32.9	41.6	20 32.96	2 35.840			
		1.3	. .	26.4					
	Weisse XII, 311 .	5.3	13.7	22.3	24 13.80	3 46.244	2 56.26	23.208	
		57.5	. .	22.6					
	Hebe	1.5	10.0	18.7	27 10.06	2 35.821			
		26.6	. .	51.7					
	Weisse XII, 311 .	30.5	39.1	47.7	28 39.12	3 46.200	+2 56.16	+ 23.256	
		22.9	. .	47.8					
	Hebe	26.7	35.2	43.8	11 31 35.28	2 35.819			

(Continued.)

HEBE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
April 1		14.4	. .	39.5					
	Weisse XII, 311 .	18.3	26.9	35.5	11 34 26.92	3 46.344	+2 55.90	+ 23.341	
H.		10.4	. .	35.3					
	Hebe	14.2	22.9	31.3	37 22.82	2 35.788			
		54.0	. .	19.2					
	Weisse XII, 311 .	58.0	6.4	15.2	39 6.56	3 46.412	2 55.64	23.394	
		49.7	. .	14.8					
	Hebe	53.5	2.1	10.9	42 2.20	2 35.803			
		9.7	. .	34.9					
	Weisse XII, 311 .	13.8	22.2	31.0	44 22.32	3 46.492	+2 55.50	+ 23.517	
		5.3	. .	30.4					
	Hebe	9.2	17.8	26.4	11 47 17.82	2 35.760			

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
April 1		41.7	. .	5.9					Corr. Chron. — 2 8.32
	Weisse XI, 562 .	45.6	53.7	2.1	10 3 53.80	3 43.644	+1 41.00	+ 12.527	α δ
H.		22.7	. .	47.0					h. m. s. ° ′ ″
	Eurynome . . .	26.4	34.7	43.2	5 34.80	2 43.902			Weisse XI, 562, 11 32 53.15 — 0 41 50.53
		21.9	. .	46.0					Eurynome—Weisse XI, 562.
	Weisse XI, 562 .	25.7	33.9	42.3	7 33.96	3 43.801	1 40.76	12.596	Δ α Δ δ
		2.2	. .	27.1					h. m. s. m. s. ′ ″
	Eurynome . . .	6.5	14.8	23.0	9 14.72	2 43.990			Sid. T. 10 19 50.89 + 1 40.45 + 3 15.93
		25.9	. .	50.2					Δ ρ .00 + .10
	Weisse XI, 562 .	29.7	37.9	46.2	10 37.98	3 43.814	1 40.64	12.651	p — .07 + 3.06
		6.6	. .	31.1					
	Eurynome . . .	10.4	18.2	26.8	12 18.62	2 43.948			
		58.4	. .	22.7					
	Weisse XI, 562 .	2.3	10.3	18.8	14 10.50	3 43.846	1 40.62	12.674	
		39.0	. .	3.2					
	Eurynome . . .	42.8	51.1	59.5	15 51.12	2 43.957			
		6.2	. .	30.6					
	Weisse XI, 562 .	10.1	18.2	26.7	18 18.36	3 44.042	1 40.60	12.911	
		46.9	. .	11.0					
	Eurynome . . .	50.7	58.9	7.3	19 58.96	2 43.916			
		27.0	. .	51.0					
	Weisse XI, 562 .	30.7	38.7	47.8	21 38.94	3 44.118	1 40.54	12.660	
		7.5	. .	31.6					
	Eurynome . . .	11.3	19.2	27.8	23 19.48	2 44.243			
		10.2	. .	34.8					
	Weisse XI, 562 .	14.0	22.3	30.8	25 22.42	3 44.197	1 40.38	12.852	
		50.8	. .	14.9					
	Eurynome . . .	54.4	2.9	11.0	27 2.80	2 44.130			
		15.0	. .	39.0					
	Weisse XI, 562 .	18.7	26.5	35.0	28 26.84	3 44.300	1 40.22	12.965	
		54.9	. .	19.2					
	Eurynome . . .	58.8	7.1	15.3	30 7.06	2 44.120			
		17.8	. .	42.2					
	Weisse XI, 562 .	21.8	29.9	38.3	31 30.00	3 44.332	1 40.10	12.981	
		58.0	. .	22.2					
	Eurynome . . .	1.8	10.1	18.4	33 10.10	2 44.136			
		32.6	. .	57.0					
	Weisse XI, 562 .	36.5	44.8	53.2	35 44.82	3 44.343	+1 39.66	+ 12.932	
		12.6	. .	36.6					
	Eurynome . . .	16.3	24.2	32.7	10 37 24.48	2 44.196			
April 13		13.3	. .	37.6					m. s.
	Lalande 21911, 21912	17.2	25.4	33.7	10 39 25.44	5 40.904	+1 26.26	+ 63.419	Corr. Chron. — 1 53.61
H.		39.7	. .	3.6					α δ
	Eurynome . . .	43.6	51.6	0.0	40 51.70	1 37.486			h. m. s. ° ′ ″
		52.7	. .	16.8					Lalande 21911, 11 25 25.73 + 0 19 54.91
	Lalande 21911, 21912	56.6	4.8	13.0	43 4.78	5 40.924	1 26.26	63.186	Eurynome—Lalande 21911,
		19.0	. .	43.2					Δ α Δ δ
	Eurynome . . .	22.8	30.9	39.3	44 31.04	1 37.739			h. m. s. m. s. ′ ″
		5.4	. .	29.7					Sid. T. 10 54 44.12 + 1 25.93 +16 13.52
	Lalande 21911, 21912	9.4	17.6	25.8	46 17.58	5 40.942	1 26.12	63.413	Δ ρ .00 + .44
		31.9	. .	55.7					p — .03 + 2.85
	Eurynome . . .	35.5	43.5	51.9	47 43.70	1 37.530			
		53.9	. .	18.2					
	Lalande 21911, 21912	57.7	6.0	14.3	51 6.02	5 41.042	+1 26.06	+ 63.359	
		20.0	. .	44.1					
	Eurynome . . .	24.0	32.0	40.3	10 52 32.08	1 37.684			

(Continued.)

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
April 13		45.6	. .	9.8					
	Lalande 21911, 21912	49.4	57.4	6.0	10 53 57.64	5 41.201	+1 26.06	+ 63.591	
H.		11.7	. .	35.6					
	Eurynome . . .	15.5	23.7	32.0	55 23.70	1 37.611			
		10.8	. .	35.0					
	Lalande 21911, 21912	14.6	22.8	31.2	57 22.88	5 41.082	1 25.90	63.431	
		36.7	. .	0.7					
	Eurynome . . .	40.6	48.9	57.0	10 58 48.78	1 37.652			
		1.2	. .	25.6					
	Lalande 21911, 21912	5.2	13.4	21.8	11 0 13.44	5 41.110	1 25.82	63.301	
		27.2	. .	51.4					
	Eurynome . . .	31.0	39.3	47.4	1 39.26	1 37.810			
		26.2	. .	50.7					
	Lalande 21911, 21912	30.2	38.2	46.9	3 32.44	5 41.202	1 25.84	63.593	
		52.1	. .	16.5					
	Eurynome . . .	56.0	4.2	12.6	5 4.28	1 37.610			
		52.0	. .	16.3					
	Lalande 21911, 21912	55.8	4.0	12.4	7 4.10	5 41.236	1 25.46	63.663	
		17.6	. .	41.3					
	Eurynome . . .	21.4	29.7	37.8	8 29.56	1 37.574			
		35.5	. .	59.8					
	Lalande 21911, 21912	39.3	47.7	56.0	9 47.66	5 41.264	+1 25.54	+ 63.789	
		1.3	. .	35.2					
	Eurynome . . .	5.0	13.2	21.3	11 11 13.20	1 37.476			
April 17	Eurynome . . .	20.6	33.0	44.6	10 22 32.73	2 34.210			m. s. Corr. Chron. + 1 45.14
	Durch. M. 2799 . .	25.3	37.3	49.5	22 37.37	5 37.952	—0 4.64	+ 46.612	α δ
F.									h. m. s. ° ′ ″
	Eurynome . . .	43.4	55.3	7.2	26 55.30	2 33.938			Durch. M. 2799, 11 25 3.03 + 0 44 50.77
	Durch. M. 2799 . .	47.9	59.8	11.9	26 59.87	5 37.830	0 4.57	46.762	
									Eurynome—Durch. M. 2799,
	Eurynome . . .	27.8	39.7	51.5	35 39.67	2 34.225			Δ α Δ δ
	Durch. M. 2799 . .	33.4	44.5	56.7	39 44.53	5 37.820	0 4.86	46.465	h. m. s. m. s. ′ ″
									Sid. T. 10 44 20.62 — 0 5.11 +11 59.23
	Eurynome . . .	58.8	10.9	22.9	38 10.87	2 34.153			Δ ρ .00 + .32
	Durch. M. 2799 . .	4.2	16.1	28.0	38 16.10	5 38.062	0 5.23	46.779	ρ — .05 + 2.78
	Eurynome . . .	8.3	20.5	32.4	43 20.40	2 34.252			
	Durch. M. 2799 . .	13.4	25.1	37.4	43 25.30	5 38.170	0 4.90	46.788	
	Eurynome . . .	3.2	15.3	27.5	44 15.33	2 34.103			
	Durch. M. 2799 . .	8.5	. .	32.6	44 20.55	5 38.049	0 5.22	46.816	
	Eurynome . . .	23.6	35.5	47.7	47 35.60	2 34.158			
	Durch. M. 2799 . .	28.8	40.4	52.8	47 40.66	5 38.263	0 5.06	46.975	
	Eurynome . . .	23.2	35.2	47.3	50 35.23	2 33.962			
	Durch. M. 2799 . .	28.6	40.3	52.5	50 40.47	5 38.080	0 5.24	46.988	
	Eurynome . . .	30.9	42.9	55.2	53 43.00	2 33.881			
	Durch. M. 2799 . .	36.2	48.1	0.4	10 53 48.23	5 38.092	0 5.23	47.081	
	Eurynome . . .	31.2	43.1	55.1	11 0 43.13	2 32.550			
	Durch. M. 2799 . .	36.6	48.7	0.6	0 48.63	5 36.949	0 5.50	47.269	
	Eurynome . . .	19.5	31.6	43.5	3 31.53	2 32.863			
	Durch. M. 2799 . .	24.9	36.9	48.9	3 36.90	5 37.024	0 5.37	47.021	
	Eurynome . . .	54.3	6.4	18.3	6 6.33	2 32.709			
	Durch. M. 2799 . .	59.8	11.8	23.8	11 6 11.80	5 37.015	—0 5.47	+ 47.176	

AUSONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865.		17.9	. .	43.1					Corr. Chron. — 1 41.38
April 19	B. A. C. 4418 . .	21.8	30.7	39.2	11 9 30.54	5 45.252	+0 46.42	+ 49.319	α δ
F.		. .	. .	29.5					h. m. s. ° ′ ″
	Ausonia	8.5	16.8	25.7	10 16.96	2 38.803			B. A. C. 4418, 13 4 55.54 —15 28 18.71
		32.7	. .	57.8					
	(* 10)	36.7	45.1	53.9	10 45.24	2 45.045			Ausonia—B. A. C. 4418,
		50.5	. .	15.5					Δ α Δ δ
	B. A. C. 4418 . .	54.4	2.9	11.6	17 2.98	5 45.495	0 45.96	49.435	h. m. s. m. s. ′ ″
		36.4	. .	1.5					Sid. T. 11 29 34.80 + 0 45.50 +12 39.92
	Ausonia	40.4	48.8	57.6	17 48.94	2 38.930			Δ ρ + .01 + .70
		. .	. .	30.2					ρ — .15 + 5.16
	(* 10)	9.1	17.6	26.3	18 17.66	2 45.219			
		56.4	. .	21.4					
	B. A. C. 4418 . .	0.4	9.0	17.5	24 8.90	5 45.765	0 45.68	49.640	
		42.0	. .	7.0					
	Ausonia	46.0	54.7	3.2	24 54.58	2 38.995			
		5.2	. .	30.4					
	B. A. C. 4418 .	9.2	17.8	26.3	26 17.78	5 45.942	0 45.66	49.571	
		50.6	. .	15.8					
	Ausonia	55.0	3.6	12.2	27 3.44	2 39.241			
		7.8	. .	33.3					
	B. A. C. 4418 . .	12.0	20.2	28.9	29 20.44	5 45.975	0 45.47	49.400	
		. .	. .	18.4					
	Ausonia	57.5	5.8	14.6	30 5.91	2 39.445			
		49.8	. .	14.7					
	B. A. C. 4418 . .	53.5	1.9	10.7	33 2.12	5 45.962	0 45.30	49.402	
		35.1	. .	59.9					
	Ausonia	38.9	47.4	55.8	33 47.42	2 39.430			
		30.7	. .	55.9					
	B. A. C. 4418 . .	34.6	43.2	51.7	35 43.22	5 46.249	0 45.02	49.576	
		. .	. .	40.7					
	Ausonia	19.7	28.3	36.8	36 28.24	2 39.543			
		36.9	. .	2.5					
	B. A. C. 4418 . .	40.8	49.5	58.1	38 49.56	5 46.210	0 45.04	49.638	
		21.9	. .	47.1					
	Ausonia	26.3	34.4	43.3	39 34.60	2 39.442			
		20.2	. .	45.4					
	B. A. C. 4418 . .	23.9	32.4	41.4	42 32.66	5 46.210	0 44.80	49.821	
		4.9							
	Ausonia	8.5	17.6	26.1	44 17.46	2 39.259			
		27.1	. .	52.4					
	B. A. C. 4418 . .	31.2	39.5	48.1	47 39.66	5 46.371	+0 44.57	+ 49.682	
		. .	. .	36.7					
	Ausonia	. .	24.1	32.9	11 48 24.23	2 39.559			
		31.9	. .	56.8					
April 24									m. s.
F.	Oeltzen S. 12623	36.5	44.3	52.9	11 22 44.48	5 45.770			Corr. Chron. + 1 31.78
		7.7	. .	32.5					α δ
	Oeltzen S. 12626 .	11.6	20.3	28.9	23 20.20	1 39.070			h. m. s. ° ′ ″
		. .	. .	50.9					Oeltzen S. 12630, 12 58 11.97 —14 52 35.72
	Oeltzen S. 12630 .	. .	38.2	47.2	23 38.40	3 33.004	+3 8.60	— 7.728	
		34.5	. .	59.8					Ausonia—Oeltzen S. 12630,
	(* 11)	38.1	46.8	55.8	26 47.00	3 40.832			Δ α Δ δ
		42.3	. .	7.1					h. m. s. m. s. ′ ″
	Oeltzen S. 12623 .	46.1	55.2	3.4	30 54.83	3 33.065	3 8.53	7.897	Sid. T. 12 10 39.22 + 2 43.76 — 2 59.27
		50.9	. .	15.7					Δ ρ .00 — .15
	Oeltzen S. 12626 .	54.9	3.2	12.1	34 3.36	3 40.962			ρ — .08 + 5.50
		39.7	. .	4.7					
	Oeltzen S. 12630 .	43.8	52.2	0.7	35 52.22	3 33.171	+3 8.58	— 7.959	
		48.6	. .	13.2					
	(* 11)	52.2	0.6	9.4	11 39 0.80	3 41.130			

(Continued.)

AUSONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. April 24 F.		49.3	. .	14.1					
	Oeltzen S. 12630 .	53.2	1.5	10.2	11 41 1.66	2 46.169	+2 44.90	− 12.086	
		34.1	. .	58.9					
	Ausonia	38.1	46.5	55.2	43 46.56	3 45.470			
		26.4	. .	51.6					
	Oeltzen S. 12630 .	30.4	39.1	47.6	45 39.02	2 46.290	2 44.70	11.828	
		11.2	. .	36.4					
	Ausonia	15.2	23.6	32.2	48 23.72	3 45.333			
		8.2	. .	33.2					
	Oeltzen S. 12630 .	12.7	20.4	29.3	50 20.64	2 46.338	2 44.50	11.887	
		52.7	. .	17.5					
	Ausonia	56.5	5.0	14.0	11 53 5.14	3 45.440			
		33.1	. .	58.0					
	Oeltzen S. 12630 .	36.8	45.3	54.2	12 6 45.48	2 48.365	2 44.04	11.682	
		16.9	. .	41.9					
	Ausonia	21.1	29.5	38.2	9 29.52	3 47.262			
		36.9							
	Oeltzen S. 12630 .	40.9	49.2	58.1	10 49.39	2 48.242	2 43.75	11.823	
		20.8	. .	45.6					
	Ausonia	24.5	32.9	41.9	13 33.14	3 47.280			
		16.7	. .	41.3					
	Oeltzen S. 12630 .	20.8	29.1	37.7	15 29.12	2 48.594	2 43.68	11.492	
		0.2	. .	25.2					
	Ausonia	4.1	12.8	21.7	18 12.80	3 47.301			
		43.8	. .	9.1					
	Oeltzen S. 12630 .	48.0	56.1	5.0	19 56.40	2 48.522	2 43.64	11.665	
		27.4	. .	53.3					
	Ausonia	31.2	39.7	48.6	22 40.04	3 47.402			
		55.3	. .	20.4					
	Oeltzen S. 12630 .	59.0	7.5	16.4	24 7.72	2 48.643	2 43.46	11.392	
		38.5	. .	3.6					
	Ausonia	42.5	51.5	59.8	26 51.18	3 47.250			
		15.2	. .	39.9					
	Oeltzen S. 12630 .	18.7	27.2	35.8	28 27.36	2 48.490	2 42.92	11.590	
		58.0	. .	22.7					
	Ausonia	1.7	10.2	18.8	30 10.28	3 47.295			
		6.4	. .	31.4					
	Oeltzen S. 12630 .	10.3	18.9	27.5	33 18.90	2 48.802	+2 42.98	− 11.444	
		50.3	. .	14.0					
	Ausonia	53.2	1.6	10.3	12 36 1.88	3 47.461			
		37.6	. .	3.2					
April 25 H.	Oeltzen S. 12630 .	42.0	50.6	59.3	13 14 50.54	3 46.897	+1 47.68	+ 5.192	
		25.6	. .	50.7					
	Ausonia	29.7	38.1	47.0	16 38.22	3 41.705			
		20.7	. .	46.3					
	Oeltzen S. 12630 .	25.0	33.5	42.3	18 33.56	3 46.583	1 47.32	4.759	
		8.3	. .	33.3					
	Ausonia	12.3	20.9	29.6	20 20.88	3 41.824			
		30.5	. .	56.1					
	Oeltzen S. 12630 .	34.7	43.4	52.2	21 43.38	3 46.788	1 47.20	5.059	
		18.0	. .	43.2					
	Ausonia	22.0	30.4	39.3	23 30.58	3 41.729			
		10.1	. .	35.4					
	Oeltzen S. 12630 .	14.0	22.7	31.6	25 22.76	3 46.916	1 47.24	5.185	
		57.4	. .	22.6					
	Ausonia	1.4	9.8	18.8	27 10.00	3 41.731			
		25.6	. .	50.6					
	Oeltzen S. 12630 .	29.3	37.6	46.8	28 37.98	3 46.890	+1 47.06	+ 5.044	
		12.5	. .	37.7					
	Ausonia	16.4	24.8	33.8	13 30 25.04	3 41.846			

RESULTS.

m. s.
Corr. Chron. — 1 29.90

	α h. m. s.	δ ° ′ ″
Oeltzen S. 12630,	12 58 12.02	−14 52 35.72
Oeltzen S. 12626,	12 57 55.58	−14 46 39.81

Ausonia—Oeltzen S. 12630,

		Δ α m. s.	Δ δ ′ ″
Sid. T.	13 22 7.04	+ 1 47.30	+ 1 17.42
	Δ ρ	.00	+ .05
	p +	.04	+ 5.52

Ausonia—Oeltzen S. 12626,

Sid. T.	13 42 55.66	+ 2 4.55	− 4 55.55
	Δ ρ	.00	− .23
	p +	.09	+ 5.48

(Continued.)

AUSONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
April 25		10.6	. .	35.6					
	Oeltzen S. 12626 .	14.3	23.0	31.7	13 34 23.04	3 38.104	+2 4.84	— 18.797	
H.		15.2	. .	40.5					
	Ausonia	19.3	28.0	36.4	36 27.88	4 43.824			
		53.6	. .	18.3					
	Oeltzen S. 12626 .	57.5	6.1	14.8	38 6.06	3 38.117	2 4.72	18.613	
		58.2	. .	23.3					
	Ausonia	2.2	10.7	19.5	40 10.78	4 43.653			
		31.9	. .	57.0					
	Oeltzen S. 12626 .	36.0	44.2	53.1	42 44.44	3 38.170	2 4.56	18.627	
		36.3	. .	1.5					
	Ausonia	40.6	48.9	57.7	44 49.00	4 43.720			
		2.1	. .	27.2					
	Oeltzen S. 12626 .	6.0	14.6	23.4	46 14.66	3 38.123	2 4.32	18.612	
		6.3	. .	31.7					
	Ausonia	10.1	19.0	27.8	48 18.98	4 43.658			
		4.3	. .	29.4					
	Oeltzen S. 12626 .	8.3	16.8	25.5	50 16.86	3 38.242	+2 4.30	— 18.443	
		8.3	. .	33.7					
	Ausonia	12.6	21.2	30.0	13 52 21.16	4 43.608			
April 26	Oeltzen S. 12630 .	1.3	9.8	18.6	11 44 9.90	3 36.189	+0 57.80	+ 20.172	m. s. Corr. Chron. — 1 27.94
	Ausonia	59.2	7.5	16.4	45 7.70	2 28.802			α δ
F.									h. m. s. ° ′ ″
	Oeltzen S. 12630 .	22.3	30.7	40.1	46 31.03	3 36.270	0 57.84	20.195	Oeltzen S. 12630, 12 58 12.03 —14 52 35.7
	Ausonia	20.4	28.8	37.4	47 28.87	2 28.860			Ausonia—Oeltzen S. 12630,
	Oeltzen S. 12630 .	30.4	38.6	47.6	48 38.87	3 36.210	0 57.73	20.093	Δ α Δ δ
	Ausonia	28.2	36.4	45.2	49 36.60	2 28.902			h. m. s. m. s. ′ ″
	Oeltzen S. 12630 .	48.5	56.6	5.8	51 56.97	3 36.382	0 57.73	20.257	Sid. T. 12 5 10.29 + 0 57.10 + 5 11.87
	Ausonia	46.2	54.4	3.5	52 54.70	2 28.910			Δ ρ .00 + .26
									p + .09 + 5.46
	Oeltzen S. 12630 .	53.2	1.7	10.6	54 1.83	3 36.316	0 57.70	20.096	
	Ausonia	51.0	59.5	8.1	54 59.53	2 29.005			
	Oeltzen S. 12630 .	41.8	50.2	59.1	56 50.37	3 36.405	0 57.26	20.152	
	Ausonia	38.8	47.6	56.5	57 47.63	2 29.038			
	Oeltzen S. 12630 .	55.3	3.6	12.8	11 59 3.90	3 36.582	0 57.23	20.422	
	Ausonia	52.7	1.1	9.6	12 0 1.13	2 28.945			
	Oeltzen S. 12630 .	28.2	36.4	45.5	3 36.70	3 36.565	0 57.30	20.287	
	Ausonia	25.5	33.9	42.6	4 34.00	2 29.063			
	Oeltzen S. 12630 .	59.3	7.6	16.6	7 7.83	3 36.780	0 56.90	20.444	
	Ausonia	56.2	4.5	13.5	8 4.73	2 29.121			
	Oeltzen S. 12630 .	9.8	18.2	27.0	9 18.33	3 36.533	0 57.00	20.316	
	Ausonia	6.9	15.2	23.9	10 15.33	2 29.002			
	Oeltzen S. 12630 .	52.9	1.4	10.2	19 1.50	3 36.841	0 56.63	20.477	
	Ausonia	49.6	57.9	6.9	19 58.13	2 29.149			
	Oeltzen S. 12630 .	48.1	56.4	5.3	20 56.60	3 36.720	0 56.47	20.455	
	Ausonia	44.6	52.9	1.9	21 53.07	2 29.050			
	Oeltzen S. 12630 .	0.4	9.3	18.1	26 9.27	3 36.895	0 56.50	20.540	
	Ausonia	57.4	5.5	14.4	26 5.77	2 29.140			
	Oeltzen S. 12630 .	15.7	24.2	33.2	28 24.37	3 36.909	0 56.26	20.464	
	Ausonia	12.1	20.5	29.3	29 20.63	2 29.230			
	Oeltzen S. 12630 .	21.1	29.5	38.3	30 29.63	3 36.875	+0 56.10	+ 20.640	
	Ausonia	17.2	. .	. .	12 31 25.73	2 29.020			

AUSONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
April 27	Oeltzen S. 12626 .	8.5	17.2	25.7	13 0 17.13	3 38.930	+0 21.60	+ 13.345	Corr. Chron. — 1 25.94
H.	Ausonia	30.2	38.6	47.4	0 38.73	2 38.370			α δ
									h. m. s. ° ′ ″
	Oeltzen S. 12626 .	11.1	19.6	28.4	2 19.70	3 38.980	0 21.63	13.374	Oeltzen S. 12626, 12 57 55.58 —14 46 39.89
	Ausonia	32.8	41.2	50.0	2 41.33	2 38.391			
									Ausonia—Oeltzen S. 12626,
	Oeltzen S. 12626 .	43.4	52.0	0.7	4 52.03	3 38.984	0 21.60	13.385	Δ α Δ δ
	Ausonia	5.0	13.5	22.4	5 13.63	2 38.384			h. m. s. m. s. ′ ″
									Sid. T. 13 10 7.56 — 0 21.31 + 3 24.91
	Oeltzen S. 12626 .	12.4	21.0	29.8	7 21.07	3 38.923	0 21.50	13.241	Δ ρ .00 + .15
	Ausonia	34.0	42.5	51.2	7 42.57	2 38.467			p + .02 + 5.48
	Oeltzen S. 12626 .	5.3	13.8	22.6	10 13.87	3 39.040	0 21.36	13.350	
	Ausonia	26.6	35.1	44.0	10 35.23	2 38.475			
	Oeltzen S. 12626 .	12.2	20.6	29.6	12 20.80	3 39.024	0 21.27	13.351	
	Ausonia . . .	33.4	42.0	50.8	12 42.07	2 38.458			
	Oeltzen S. 12626 .	31.0	39.4	48.2	14 39.53	3 39.025	0 21.27	13.374	
	Ausonia . . .	52.1	0.8	9.5	15 0.80	2 38.436			
	Oeltzen S. 12626 .	58.0	6.6	15.3	17 6.63	3 39.112	0 21.07	13.392	
	Ausonia	19.1	27.6	36.4	17 27.70	2 38.505			
	Oeltzen S. 12626 .	12.3	20.8	39.8	20 20.97	3 39.040	0 20.96	13.412	
	Ausonia	33.4	41.9	50.5	20 41.93	2 38.413			
	Oeltzen S. 12626 .	21.5	29.8	39.0	22 30.10	3 39.040	+0 20.87	+ 13.372	
	Ausonia . .	42.5	50.8	59.6	13 22 50.97	2 38.453			

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 3	Egeria	36.5	45.6	55.1	13 44 45.73	5 43.525			Corr. Chron. — 1 21.24
	Oeltzen S. 15134	37.5	46.8	55.8	45 46.70	5 42.175	—1 0.97	— 1.350	α δ
F.	B. A. C. 5314	30.3	39.5	48.6	46 39.47	1 36.035	1 53.74	67.491	h. m. s. ° ′ ″
	Egeria	40.5	49.2	58.8	49 49.50	5 44.078			Oeltzen S. 15134, 15 54 21.58 —25 46 2.5
	Oeltzen S. 15134	42.2	50.9	59.7	50 50.93	5 42.630	1 1.43	1.448	B. A. C. 5314, 15 55 14.69 —25 29 11.31
	B. A. C. 5314	. .	43.5	53.2	51 43.98	1 36.690	1 54.48	67.389	Egeria—Oeltzen S. 15134,
	Egeria	44.5	53.2	2.7	56 53.47	5 44.728			Δ α Δ δ
	Oeltzen S. 15134	45.8	54.8	4.1	57 54.90	5 43.290	1 1.43	1.438	h. m. s. m. s. ′ ″
	B. A. C. 5314	38.8	48.3	57.2	13 58 48.10	1 37.308	1 54.63	67.421	Sid. T. 13 56 58.23 — 1 1.63 — 0 21.95
	Egeria	45.8	54.8	4.1	14 1 54.90	5 45.000			Δ ρ .00 — .04
	Oeltzen S. 15134	47.3	56.7	6.1	2 56.70	5 43.608	1 1.80	1.392	p — .14 + 4.37
	B. A. C. 5314	40.5	49.5	58.7	3 49.57	1 37.608	1 54.67	67.393	Egeria—B. A. C. 5314,
	Egeria	6.5	15.8	24.8	6 15.70	5 45.106			h. m. s.
	Oeltzen S. 15134	8.3	17.4	26.9	7 17.53	5 43.755	1 1.83	1.351	Sid. T. 13 56 58.23 — 1 54.55 —17 14.55
	B. A. C. 5314	1.3	10.4	19.7	8 10.47	1 37.730	1 54.77	67.377	Δ ρ + .07 — 2.05
	Egeria	8.3	17.3	27.0	10 17.53	5 45.775			p — .14 + 4.37
	Oeltzen S. 15134	10.8	19.5	29.2	11 19.83	5 44.165	1 2.30	1.610	
	B. A. C. 5314	3.4	12.5	21.8	14 12 12.57	1 38.121	—1 55.04	— 67.655	
May 6	Egeria	0.0	9.1	18.7	14 34 9.27	5 33.867			m. s.
	π Scorpii	37.9	46.8	56.3	34 47.00	1 39.180	—0 37.73	— 54.708	Corr. Chron. — 1 17.95
H.	Egeria	26.0	35.2	44.7	36 35.30	5 34.088			α δ
	π Scorpii	4.0	13.2	22.4	37 13.20	1 39.230	0 37.90	54.859	h. m. s. ° ′ ″
	Egeria	31.0	40.0	49.3	38 40.10	5 34.142			π Scorpii, 15 50 44.69 —25 43 22.00
	π Scorpii	9.0	18.1	27.3	39 18.13	1 39.276	0 38.03	54.867	Egeria—π Scorpii,
	Egeria	18.2	27.3	36.8	41 27.43	5 34.224			Δ α Δ δ
	π Scorpii	56.4	5.4	14.8	41 5.53	1 39.383	0 38.10	54.842	h. m. s. m. s. ′ ″
	Egeria	22.8	31.8	41.2	43 31.93	5 34.210			Sid. T. 14 45 32.24 — 0 38.41 —14 2.26
	π Scorpii	1.0	10.1	19.5	44 10.23	1 39.490	0 38.30	54.721	Δ ρ — .02 — 1.41
	Egeria	31.0	40.2	49.3	45 40.17	5 34.400			p — .08 + 4.56
	π Scorpii	9.4	18.5	27.9	46 18.63	1 39.480	0 38.46	54.921	
	Egeria	21.8	30.7	40.0	48 30.83	5 34.430			
	π Scorpii	0.2	9.2	18.6	49 9.33	1 39.490	0 38.50	54.941	
	Egeria	29.0	38.1	47.3	50 38.13	5 34.510			
	π Scorpii	7.8	16.9	26.1	51 16.93	1 39.518	0 38.80	54.993	
	Egeria	27.1	35.9	45.4	52 36.13	5 34.710			
	π Scorpii	5.6	14.3	23.9	53 14.60	1 39.627	0 38.47	55.084	
	Egeria	27.2	36.3	45.6	54 36.37	5 34.620			
	π Scorpii	6.0	15.0	24.4	55 15.13	1 39.717	0 38.76	54.904	
	Egeria	28.8	37.7	47.1	56 37.87	5 34.778			
	π Scorpii	7.7	16.7	26.0	57 16.80	1 39.700	0 38.93	55.079	
	Egeria	49.6	58.7	7.9	58 58.73	5 34.738			
	π Scorpii	28.6	37.5	46.8	14 59 37.63	1 39.664	—0 38.90	— 55.075	
May 16	Egeria	52.3	1.8	11.0	14 9 1.70	1 49.080			m. s.
	Oeltzen S. 14864	16.7	25.9	35.2	9 25.93	5 40.461	—0 24.23	+ 51.382	Corr. Chron. — 1 7.35
H.	Egeria	53.8	2.9	12.2	12 2.97	1 49.090			α δ
	Oeltzen S. 14864	18.1	27.3	36.8	12 27.40	5 40.504	0 24.43	51.415	h. m. s. ° ′ ″
	Egeria	30.8	40.1	49.2	14 40.03	1 49.208			Oeltzen S. 14864, 15 39 13.32 —26 39 56.16
	Oeltzen S. 14864	55.2	4.4	13.8	14 4.47	5 40.727	0 24.44	51.520	Egeria—Oeltzen S. 14864,
	Egeria	0.0	9.2	18.6	18 9.27	1 49.384			Δ α Δ δ
	Oeltzen S. 14864	24.7	34.0	43.2	14 18 33.97	5 40.710	—0 24.70	+ 51.327	h. m. s. m. s. ′ ″
									Sid. T. 14 26 56.28 — 0 25.18 +13 7.50
									Δ ρ + .03 + 1.35
									p — .09 + 4.59

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 16	Egeria	1.2	10.5	19.7	14 22 10.47	1 49.482			
H.	Oeltzen S. 14864 .	26.1	35.3	44.7	22 35.37	5 40.760	—0 24.90	+ 51.279	
	Egeria	31.8	40.8	50.0	24 40.87	1 49.445			
	Oeltzen S. 14864 .	56.6	5.8	15.2	25 5.87	5 40.878	0 25.00	51.434	
	Egeria	57.6	6.7	15.9	27 6.73	1 49.641			
	Oeltzen S. 14864 .	22.6	31.8	41.2	27 31.87	5 41.040	0 25.14	51.400	
	Egeria	2.2	11.3	20.8	28 11.43	1 49.814			
	Oeltzen S. 14864 .	27.4	36.6	45.8	28 36.60	5 41.095	0 25.17	51.282	
	Egeria	38.6	47.8	57.0	30 47.80	1 49.897			
	Oeltzen S. 14864 .	3.9	13.0	22.4	31 13.10	5 41.260	0 25.30	51.364	
	Egeria	7.8	16.9	26.3	36 17.00	1 49.995			
	Oeltzen S. 14864 .	33.2	42.6	51.9	36 42.57	5 41.336	0 25.57	51.342	
	Egeria	17.3	26.6	35.9	37 26.60	1 50.099			
	Oeltzen S. 14864 .	43.1	52.1	1.6	37 52.27	5 41.425	0 25.67	51.327	
	Egeria	47.0	56.2	5.6	39 56.27	1 50.239			
	Oeltzen S. 14864 .	12.9	22.0	31.4	40 22.10	5 41.453	0 25.83	51.215	
	Egeria	33.6	42.5	51.9	44 42.67	1 50.197			
	Oeltzen S. 14864 .	59.3	8.7	18.0	45 8.67	5 41 426	0 26.00	51.230	
	Egeria	27.8	37.0	46.3	47 37.03	1 50.315			
	Oeltzen S. 14864 .	54.0	3.2	12.4	14 48 3.20	5 41.622	—0 26.17	+ 51.308	
		35.5	. .	2.3					m. s.
May 17									Corr. Chron. — 1 5.27
	Egeria	39.8	48.8	58.1	13 0 48.90	2 38.075			α δ
F.		5.6	. .	33.2					h. m. s. ° ′ ″
	Oeltzen S. 14864 .	10.3	19.6	28.6	2 19.46	5 37.649	—1 30.56	— 42.444	Oeltzen S. 14864, 15 39 13.34 —26 39 56.20
		34.4	. .	1.2					
	Wash. Z. XXXIII, 6	38.4	47.5	56.9	2 47.68	3 41.035			Egeria—Oeltzen S. 14864,
		10.5	. .	36.9					Δ α Δ δ
									h. m. s. m. s. ′ ″
	Egeria	14.5	23.7	32.8	4 23.68	2 38.760			Sid. T. 13 19 1.80 — 1 31.49 +10 49.54
		40.8	. .	7.9					Δ ρ + .07 + 1.64
	Oeltzen S. 14864 .	45.2	54.4	3.7	5 54.40	5 38.325	1 30.72	42.435	p — .17 + 4.35
		. .	. .	36.2					
	Wash. Z. XXXIII, 6	13.8	22.7	31.8	6 22.72	3 42.659			
		50.5	. .	17.5					
	Egeria	54.4	3.6	12.7	9 3.74	2 39.172			
		21.3	. .	48.4					
	Oeltzen S. 14864 .	25.4	34.6	43.8	10 34.70	5 38.530	1 30.96	42.228	
		50.3	. .	16.8					
	Egeria	54.4	3.5	12.6	13 3.52	2 39.405			
		21.1	. .	48.4					
	Oeltzen S. 14864 .	25.3	34.5	43.9	14 34.64	5 38.912	1 31.12	— 42.377	
		42.0	. .	9.1					
	Egeria	46.5	55.5	4.9	15 55.60	2 39.585			
		13.3	. .	40.2					
	Oeltzen S. 14864 .	17.7	26.8	35.8	17 26.76	5 39.092	1 31.16	+ 42.377	
		43.2	. .	10.1					
	Egeria	47.4	56.4	5.6	18 56.54	2 39.971			
		14.5	. .	41.5					
	Oeltzen S. 14864 .	18.7	27.9	37.2	20 27.96	5 39.420	1 31.42	42.319	
		35.6	. .	2.5					
	Egeria	39.8	48.9	58.3	21 49.02	2 40.092			
		6.9	. .	34.5					
	Oeltzen S. 14864 .	11.4	20.5	29.8	23 20.62	5 39.565	1 31.60	42.343	
		21.8	. .	48.6					
	Egeria	26.2	35.2	44.6	24 35.28	2 40.202			
		53.8	. .	20.5					
	Oeltzen S. 14864 .	57.8	6.7	16.2	13 26 7.00	5 39.706	—1 31.72	+ 42.374	

(Continued.)

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. May 17		27.6	. .	54.7					
	Egeria	32.1	41.2	50.4	13 28 41.20	2 40.492			
		59.8	. .	27.0					
	Oeltzen S. 14864 .	4.1	13.2	22.5	29 13.32	5 39.912	—1 32.12	+ 42.290	
		15.6	. .	42.5					
	Egeria	20.0	28.8	38.1	31 29.00	2 40.580			
		47.5	. .	14.5					
	Oeltzen S. 14864 .	51.7	1.1	10.3	33 1.02	5 40.090	1 32.02	42.380	
		0.7	. .	27.5					
	Egeria	4.8	13.9	23.2	34 14.02	2 40.810			
		32.6	. .	59.7					
	Oeltzen S. 14864 .	36.9	45.9	55.4	35 46.10	5 40.303	1 32.08	42.363	
		10.8	. .	37.7					
	Egeria	15.3	24.4	33.7	38 24.38	2 41.075			
		43.3	. .	10.4					
	Oeltzen S. 14864 .	47.7	56.9	5.9	13 39 56.84	5 40.490	—1 32.46	+ 42.285	

POMONA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865. May 16 H.		18.8	. .	44.1					Corr. Chron. — 1 7.30
	Pomona	22.8	31.5	40.2	15 8 31.48	2 42.874			α δ
		58.4	. .	24.0					h. m. s. ° ′ ″
	Oelt. S. 15398, 15399	2.6	11.1	19.9	9 11.20	3 44.449	—0 39.72	+ 14.360	Oelt. S. 15398, 15399, 16 5 43.56 —17 45 8.59
		52.2	. .	17.8					Pomona—Oeltzen S. 15398, 15399,
	Pomona	56.2	5.0	13.9	11 5.02	2 42.840			Δ α Δ δ
		32.2	. .	57.6					h. m. s. m. s. ′ ″
	Oelt. S. 15398, 15399	36.2	44.8	53.4	11 44.84	3 44.511	0 39.82	14.456	Sid. T. 15 20 37.77 — 0 40.31 + 3 43.88
									Δ ρ .00 + .20
		32.0	. .	57.3					p + .06 + 4.98
	Pomona	36.0	44.7	53.3	13 44.66	2 42.876			
		12.0	. .	37.5					
	Oelt. S. 15398, 15399	16.1	24.7	33.5	14 24.76	3 44.546	0 40.10	14.455	
		28.6	. .	. .					
	Pomona	32.6	41.2	49.9	16 41.22	2 42.825			
		8.7	.	34.0					
	Oelt. S. 15398, 15399	12.7	21.3	30.0	17 21.34	3 44.580	0 40.12	14.540	
		58.4	. .	23.9					
	Pomona	2.4	11.1	20.0	20 11.16	2 42.902			
		38.8	. .	4.2					
	Oelt. S. 15398, 15399	42.9	51.3	0.0	20 51.44	3 44.674	0 40.28	14.557	
		39.2	. .	4.3					
	Pomona	43.0	51.9	0.3	22 51.74	2 42.895			
		19.3	. .	44.9					
	Oelt. S. 15398, 15399	23.4	32.1	40.9	23 32.12	3 44.767	0 40.38	14.657	
		23.2	. .	48.8					
	Pomona	27.4	36.1	44.6	25 36.02	2 42.841			
		3.8	. .	29.2					
	Oelt. S. 15398, 15399	7.8	16.3	25.1	26 16.44	3 44.751	0 40.42	14.695	
		54.3	. .	19.9					
	Pomona	58.3	7.1	15.8	30 7.08	2 42.924			
		35.1	. .	0.5					
	Oelt. S. 15398, 15399	39.1	47.7	56.5	30 47.78	3 44.879	0 40.70	14.740	
		48.7	. .	14.1					
	Pomona	52.8	1.3	10.0	33 1.38	2 42.965			
		29.3	. .	54.9					
	Oelt. S. 15398, 15399	33.5	42.0	50.8	33 42.10	3 44.894	0 40.72	14.714	
		28.2	. .	53.6					
	Pomona	32.2	40.9	49.6	35 40.90	2 42.946			
		9.1	. .	34.4					
	Oelt. S. 15398, 15399	13.2	21.8	. .	15 36 21.78	3 44.953	—0 40.88	+ 14.792	
									m. s.
May 17 F.		58.5	. .	23.8					Corr. Chron. — 1 5.22
	Oeltzen S. 15342 .	2.3	10.8	19.8	14 28 11.04	5 41.732	+0 38.40	+ 36.207	α δ
		. .	. .	1.8					h. m. s. ° ′ ″
	Pomona	40.8	49.5	. .	28 49.44	3 35.610			Oeltzen S. 15342, 16 3 33.05 —17 45 40.81
		49.3	. .	13.9					Pomona—Oeltzen S. 15342,
	Oeltzen S. 15342 .	53.4	1.9	10.8	33 1.86	5 41.849	0 38.52	36.171	Δ α Δ δ
		27.7	. .	53.2					h. m. s. m. s. ′ ″
	Pomona	31.7	40.5	48.8	33 40.38	3 35.763			Sid. T. 14 40 33.26 + 0 38.01 + 9 15.93
									Δ ρ + .01 + .55
		56.1	. .	21.7					p — .12 + 4.90
	Oeltzen S. 15342 .	0.1	8.5	17.4	37 8.76	5 41.846	0 38.40	36.266	
		34.5	. .	59.9					
	Pomona	38.6	47.2	55.6	37 47.16	3 35.665			
		48.5	. .	13.8					
	Oeltzen S. 15342 .	52.4	1.1	9.6	39 1.08	5 41.831	0 38.10	36.261	
		26.6	. .	51.8					
	Pomona	30.5	39.2	47.8	39 39.18	3 35.653			
		54.6	. .	20.2					
	Oeltzen S. 15342 .	58.8	7.3	16.0	42 7.38	5 41.880	+0 38.00	+ 36.230	
		32.8	. .	57.9					
	Pomona	36.8	45.5	53.9	14 42 45.38	3 35.735			

(Continued.)

POMONA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 17		42.6	. .	8.1					
	Oeltzen S. 15342 .	46.6	55.2	3.9	14 43 55.28	5 41.915	+0 37.86	+ 36.202	
F.		20.5	. .	45.7					
	Pomona	24.5	33.2	41.8	44 33.14	3 35.798			
		44.1	. .	9.4					
	Oeltzen S. 15342 .	47.9	56.7	5.5	45 56.72	5 41.965	0 37.78	36.325	
		21.6	. .	47.4					
	Pomona	25.8	34.5	43.2	46 34.50	3 35.725			
		31.5	. .	57.1					
	Oeltzen S. 15342 .	35.6	44.4	53.9	48 44.50	5 41.905	0 37.48	36.185	
		9.1	. .	34.8					
	Pomona	13.4	22.1	30.5	49 21.98	3 35.805			
		44.7	. .	10.4					
	Oeltzen S. 15342 .	48.9	57.5	6.2	50 57.54	5 41.990	+0 37.56	+ 36.375	
		22.5	. .	47.7					
	Pomona	26.5	35.2	43.6	14 51 35.10	3 35.700			
May 23		0.9	. .	26.4					
	Pomona	5.1	13.7	22.4	14 53 13.70	4 43.036			
H.		58.9	. .	24.2					
	Oelt. S. 15294, 15295	3.0	11.6	20.2	56 11.58	2 44.577	−2 57.88	− 24.321	
		9.4	. .	34.8					
	Pomona	13.4	22.0	30.7	14 58 22.06	4 43.107			
		7.6	. .	33.0					
	Oelt. S. 15294, 15295	11.7	20.3	29.1	15 1 20.34	2 44.667	2 58.28	24.302	
		40.2	. .	5.6					
	Pomona	44.3	53.0	1.5	2 52.92	4 43.124			
		38.3	. .	3.8					
	Oelt. S. 15294, 15295	42.3	51.1	59.9	5 51.08	2 44.719	2 58.16	24.267	
		42.9	. .	8.5					
	Pomona	47.0	55.6	4.3	7 55.66	4 43.234			
		41.4	. .	7.0					
	Oelt. S. 15294, 15295	45.6	54.1	3.0	10 54.22	2 44.907	2 58.56	24.189	
		14.8	. .	40.3					
	Pomona	19.0	27.5	36.3	12 27.58	4 43.303			
		13.5	. .	39.0					
	Oelt. S. 15294, 15295	17.6	26.2	35.0	15 26.26	2 45.010	2 58.68	24.155	
		21.0	. .	46.5					
	Pomona	25.1	33.5	42.4	17 33.70	4 43.372			
		20.0	. .	45.3					
	Oelt. S. 15294, 15295	24.0	32.6	41.3	15 20 32.64	2 45.126	−2 58.94	− 24.108	
May 30		15.5	. .	40.9					
	Oeltzen S. 15067 .	19.5	28.1	36.9	14 0 28.18	4 47.020	+2 15.52	+ 40.118	
H.		31.4	. .	56.4					
	Pomona	35.0	43.6	52.1	2 43.70	2 32.764			
		5.0	. .	30.2					
	Oeltzen S. 15067 .	9.1	17.4	26.2	4 17.58	4 47.046	2 15.56	40.090	
		20.6	. .	45.7					
	Pomona	24.6	33.0	41.8	6 33.14	2 32.818			
		53.0	. .	18.3					
	Oeltzen S. 15067 .	57.0	5.3	14.3	8 5.58	4 47.146	2 15.40	40.092	
		8.6	. .	33.3					
	Pomona	12.4	21.0	29.6	10 20.98	2 32.916			
		40.8	. .	6.0					
	Oeltzen S. 15067 .	44.5	53.2	1.9	11 53.28	4 47.247	2 15.18	40.339	
		55.8	. .	21.0					
	Pomona	59.8	8.5	17.2	14 8.46	2 32.770			
		35.1	. .	0.3					
	Oeltzen S. 15067 .	39.1	47.6	56.3	15 47.68	4 47.404	+2 15.00	+ 40.247	
		50.2	. .	15.3					
	Pomona	54.3	2.5	11.1	14 18 2.68	2 33.019			

RESULTS.

m. s.
Corr. Chron. — 0 59.43

	h. m. s.	α	° ′ ″	δ
Oeltzen S. 15294,	16 1 43.20		−16 59 21.79	

Pomona—Oeltzen S. 15294,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	15 4 24.84	— 2 58.42	— 6 11.53
Δ ρ		.00	— .33
p		— .08	+ 4.91

m. s.
Corr. Chron. — 1 0 12

	h. m. s.	α	° ′ ″	δ
Oeltzen S. 15067,	15 50 20.02		−16 41 36.67	

Pomona—Oeltzen S. 15067,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	14 20 23.71	+ 2 14.95	+10 17.61
Δ ρ		+ .01	+ .60
p		— .12	+ 4.79

(Continued.)

POMONA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. May 30		49.8	. .	15.1					
	Oeltzen S. 15067 .	53.8	2.2	11.2	14 22 2.42	4 47.476	+2 14.78	+ 40.342	
H.		4.7	. .	29.9					
	Pomona	8.8	17.0	25.6	24 17.20	2 32.996			
		58.6	. .	24.0					
	Oeltzen S. 15067 .	2.5	11.1	20.0	26 11.24	4 47.683	2 14.64	40.385	
		13.5	. .	38.2					
	Pomona	17.3	25.8	34.6	28 25.88	2 33.160			
		48.1	. .	13.3					
	Oeltzen S. 15067 .	52.0	0.7	9.2	30 0.66	4 47.795	2 14.68	40.293	
		3.0	. .	37.7					
	Pomona	6.8	15.3	23.9	32 15.34	2 33.364			
		43.2	. .	8.6					
	Oeltzen S. 15067 .	47.3	55.8	4.6	33 55.90	4 48.006	2 14.52	40.322	
		57.8	. .	23.0					
	Pomona	2.0	10.3	19.0	36 10.42	2 33.546			
		33.7	. .	59.0					
	Oeltzen S. 15067 .	37.7	46.4	55.0	38 46.36	4 48.050	+2 14.18	+ 40.462	
		47.9	. .	13.2					
	Pomona	52.0	0.4	9.2	14 41 0.54	2 33.450			
									m. s.
June 1		16.8	. .	42.2					Corr. Chron. — 0 59.24
	Oelt. S. 15061, 15062	21.0	29.4	38.0	14 49 29.48	3 42.641	+0 49.38	+ 12.419	α δ
H.		6.5	. .	31.2					h. m. s. ° ′ ″
	Pomona	10.3	19.0	27.3	50 18.86	2 43.007			Oeltzen S. 15061, 15 50 3.95 —16 25 4.54
		47.9	. .	12.7					
	Oelt. S. 15061, 15062	51.7	0.2	8.6	52 0.22	3 42.610	0 49.24	12.321	Pomona—Oeltzen S. 15061,
		36.9	. .	2.0					Δ α Δ δ
	Pomona	40.8	49.6	58.0	52 49.46	2 43.074			h. m. s. m. s. ′ ″
		54.7	. .	19.8					Sid. T. 15 1 21.34 + 0 48.80 + 3 12.50
	Oelt. S. 15061, 15062	58.7	7.1	15.8	55 7.22	3 42.624	0 49.12	12.199	Δ ρ .00 + 0.17
		43.6	. .	9.0					ρ — 0.07 + 4.82
	Pomona	47.9	56.3	4.9	55 56.34	2 43.210			
		13.7	. .	38.7					
	Oelt. S. 15061, 15062	17.8	26.0	34.7	57 26.18	3 42.765	0 48.98	12.370	
		2.8	. .	27.7					
	Pomona	6.6	15.0	23.7	14 58 15.16	2 43.180			
		24.4	. .	49.5					
	Oelt. S. 15061, 15062	28.5	37.0	45.5	15 0 36.98	3 42.785	0 48.80	12.499	
		13.2	. .	38.3					
	Pomona	17.3	25.8	34.3	1 25.78	2 43.071			
		10.4	. .	35.6					
	Oelt. S. 15061, 15062	14.5	22.9	31.6	4 23.00	3 42.837	0 48.74	12.477	
		59.3	. .	24.2					
	Pomona	3.2	11.7	20.3	5 11.74	2 43.145			
		25.1	. .	50.3					
	Oelt. S. 15061, 15062	29.1	37.7	46.4	6 37.72	3 42.868	0 48.56	12.753	
		13.6	. .	39.0					
	Pomona	17.8	26.0	35.0	7 26.28	2 42.900			
		47.0	. .	12.0					
	Oelt. S. 15061, 15062	50.9	59.2	7.9	8 59.40	3 43.070	0 48.52	12.753	
		35.5	. .	0.6					
	Pomona	39.4	47.8	56.3	9 47.92	2 43.102			
		9.5	. .	34.7					
	Oelt. S. 15061, 15062	13.8	22.1	30.8	11 22.18	3 43.010	0 48.26	12.790	
				22.9					
	Pomona	. .	10.3	19.1	12 10.44	2 43.005			
		5.6	. .	30.4					
	Oelt. S. 15061, 15062	9.7	17.7	26.4	14 17.96	3 43.095	+0 48.44	+ 12.930	
		54.0	. .	19.0					
	Pomona	57.9	6.2	14.9	15 15 6.40	2 42.950			

THEMIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865.		4.4	. .	30.3					m. s.
May 30									Corr. Chron. — 1 0.10
	Themis	8.6	17.3	25.8	15 13 17.28	2 40.884			α δ
H.		17.0	. .	43.0					h. m. s. ° ′ ″
	Oeltzen S. 15179 .	21.2	30.0	38.9	14 30.02	3 36.826	—1 12.74	+ 8.727	Oeltzen S. 15179, 15 56 43.58 —20 58 41.75
		5.8	. .	31.6					
	Themis	9.9	18.7	27.3	16 18.66	2 40.850			Themis—Oeltzen S. 15179,
		18.3	. .	44.1					Δ α Δ δ
	Oeltzen S. 15179 .	22.6	31.2	40.0	17 31.24	3 36.970	1 12.58	8.905	h. m. s. m. s. ′ ″
									Sid. T. 15 28 13.06 — 1 13.03 + 2 16.7
									Δ ρ .00 + .1
									ρ — .03 + 3.3
		1.4	. .	27.5					
	Themis	5.7	14.3	23.2	21 14.42	2 40.940			
		14.2	. .	40.1					
	Oeltzen S. 15179 .	18.3	27.0	36.1	22 27.14	3 36.884	1 12.72	8.729	
		6.4	. .	32.3					
	Themis	10.3	19.2	28.1	25 19.26	2 40.750			
		19.3	. .	45.3					
	Oeltzen S. 15179 .	23.3	32.2	41.0	26 32.22	3 36.836	1 12.96	8.871	
		2.0	. .	27.8					
	Themis	6.2	14.9	23.6	28 14.90	2 40.970			
		14.8	. .	40.9					
	Oeltzen S. 15179 .	19.0	27.7	36.8	29 27.84	3 37.106	1 12.94	8.921	
		56.2	. .	21.9					
	Themis	0.4	9.0	17.9	31 9.08	2 40.940			
		9.2	. .	35.2					
	Oeltzen S. 15179 .	13.3	22.1	31.0	32 22.16	3 37.166	1 13.08	9.011	
		31.1	. .	57.2					
	Themis	35.2	44.0	52.8	33 44.06	2 41.150			
		44.3	. .	9.7					
	Oeltzen S. 15179 .	48.4	57.1	5.8	34 57.06	3 37.180	1 13.00	8.815	
		50.0	. .	15.7					
	Themis	54.0	2.6	11.6	38 2.78	2 41.168			
		3.2	. .	29.1					
	Oeltzen S. 15179 .	7.4	16.0	25.0	39 16.14	3 37.250	1 13.36	8.867	
		44.0	. .	10.0					
	Themis	48.2	56.8	5.6	40 56.92	2 40.970			
		57.3	. .	23.3					
	Oeltzen S. 15179 .	1.6	10.1	19.1	42 10.28	3 37.680	1 13.36	9.495	
		41.5	. .	7.0					
	Themis	45.7	54.2	3.0	43 54.28	2 41.130			
		55.2	. .	20.6					
	Oeltzen S. 15179 .	59.2	7.7	16.4	15 45 7.82	3 37.176	—1 13.54	+ 8.831	

FERONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865.									Corr. Chron. — 1 12.63
June 22		45.6	. .	10.6					α δ
	Weisse XVIII, 1314	49.7	58.2	6.7	17 3 58.16	3 35.205	+0 35.32	— 7.121	h. m. s. ° ′ ″
H.		21.0	. .	46.0					Weisse XVIII, 1314, 18 52 39.53 —12 46 59.22
	Feronia	25.0	33.4	42.0	4 33.48	3 42.326			
		21.4	. .	46.3					Feronia—Weisse XVIII, 1314,
	Weisse XVIII, 1314	25.3	33.8	42.4	6 33.84	3 35.226	0 35.22	7.272	Δ α Δ δ
		56.6	. .	21.5					h. m. s. m. s. ′ ″
	Feronia	0.6	9.1	17.5	7 9.06	3 42.498			Sid. T. 17 15 44.27 + 0 34.82 — 1 50.44
									Δ ρ .00 — .09
		45.4	. .	10.2					p — .18 + 6.36
	Weisse XVIII, 1314	49.3	57.7	6.2	8 57.76	3 35.192	0 35.10	7.288	
		20.5	. .	45.3					
	Feronia	24.3	32.8	41.4	9 32.86	3 42.480			
		10.8	. .	35.4					
	Weisse XVIII, 1314	14.6	23.0	31.6	12 23.08	3 35.330	0 35.00	7.154	
		45.7	. .	10.3					
	Feronia	49.6	58.1	6.7	12 58.08	3 42.484			
		47.0	. .	11.7					
	Weisse XVIII, 1314	51.0	59.2	7.8	14 59.34	3 35.326	0 34.86	7.198	
		21.8	. .	46.6					
	Feronia	25.7	34.1	42.8	15 34.20	3 42.524			
		23.8	. .	48.4					
	Weisse XVIII, 1314	27.8	36.2	44.7	17 36.18	3 35.402	0 34.70	7.223	
		58.6	. .	23.4					
	Feronia	2.4	10.8	19.2	18 10.88	3 42.625			
		3.0	. .	27.7					
	Weisse XVIII, 1314	7.0	15.2	23.8	20 15.34	3 35.473	0 34.74	7.153	
		37.7	. .	2.5					
	Feronia	41.6	49.9	58.7	20 50.08	3 42.626			
		29.0	. .	53.6					
	Weisse XVIII, 1314	32.8	41.2	49.8	23 41.28	3 35.565	0 34.42	7.235	
		3.3	. .	28.1					
	Feronia	7.2	15.7	24.2	24 15.70	3 42.800			
		8.8	. .	33.5					
	Weisse XVIII, 1314	12.8	21.0	29.6	26 21.14	3 35.630	0 34.38	7.154	
		43.0	. .	8.0					
	Feronia	47.2	55.4	4.0	26 55.52	3 42.784			
		42.3	. .	7.1					
	Weisse XVIII, 1314	46.3	54.7	3.2	28 54.72	3 35.642	+0 34.42	— 7.210	
		16.8	. .	41.6					
	Feronia	20.6	29.1	37.6	17 29 29.14	3 42.852			
									m. s.
June 23		51.0	59.4	7.8	16 44 59.40	1 39.629			Corr. Chron. — 1 11.69
	Weisse XVIII, 1295	12.4	20.6	29.2	45 20.73	5 39.391			α δ
F.	Feronia	42.0	50.4	58.6	45 50.33	1 45.522			h. m. s. ° ′ ″
	Weisse XVIII, 1314	59.9	8.6	17.0	46 8.50	1 44.330	—0 18.17	— 1.192	Weisse XVIII, 1314, 18 52 39.54 —12 46 59.13
	Weisse XVIII, 1295	29.9	38.3	46.8	48 38.33	5 39.125			
	Feronia	59.1	7.5	15.8	49 7.47	1 45.618			Feronia—Weisse XVIII, 1314,
	Weisse XVIII, 1314	17.5	25.9	34.4	49 25.93	1 44.319	0 18.46	1.299	Δ α Δ δ
									h. m. s. m. s. ′ ″
	Feronia	50.7	59.0	7.0	49 58.90	1 45.635			Sid. T. 17 0 2.00 — 0 18.94 — 0 18.44
	Weisse XVIII, 1314	9.2	17.5	26.0	50 17.57	1 44.512	0 18.67	1.123	Δ ρ .00 — .02
									p — .21 + 6.35
	Feronia	40.5	49.1	57.3	52 48.97	1 45.860			
	Weisse XVIII, 1314	59.4	7.8	16.2	53 7.80	1 44.545	0 18.83	1.315	
	Feronia	26.2	34.3	42.7	54 34.40	1 46.060			
	Weisse XVIII, 1314	44.7	53.1	1.3	54 53.03	1 44.742	0 18.63	1.318	
	Feronia	17.6	25.8	34.3	56 25.90	1 46.010			
	Weisse XVIII, 1314	36.1	44.6	52.8	56 44.50	1 44.823	0 18.60	1.187	
	Feronia	16.1	24.6	33.1	58 24.60	1 45.935			
	Weisse XVIII, 1314	35.1	43.3	51.7	16 58 43.37	1 44.836	—0 18.77	— 1.099	

(Continued.)

FERONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
June 23	Feronia	21.2	29.4	37.7	17 1 29.43	1 46.150			
	Weisse XVIII, 1314	39.8	48.1	56.6	1 48.17	1 44.960	—0 18.74	— 1.190	
F.									
	Feronia	6.5	14.8	23.2	3 14.83	1 46.042			
	Weisse XVIII, 1314	25.5	33.8	42.5	3 33.93	1 44.802	0 19.10	1.240	
	Feronia	8.7	16.9	25.6	5 17.07	1 46.171			
	Weisse XVIII, 1314	27.7	36.1	44.6	5 36.13	1 45.015	0 19.06	1.156	
	Feronia	0.9	9.2	17.4	8 9.17	1 46.332			
	Weisse XVIII, 1314	19.9	28.7	36.9	8 28.50	1 45.139	0 19.33	1.193	
	Feronia	3.4	11.8	19.8	10 11.67	1 46.290			
	Weisse XVIII, 1314	22.6	31.0	39.7	10 31.10	1 45.065	0 19.43	1.225	
	Feronia	15.8	24.2	33.1	12 24.37	1 46.250			
	Weisse XVIII, 1314	35.3	43.6	52.0	12 43.63	1 45.150	0 19.26	1.100	
	Feronia	14.6	23.1	31.5	14 23.07	1 46.392			
	Weisse XVIII, 1314	34.1	42.6	50.9	14 42.53	1 45.209	0 19.46	1.183	
	Feronia	56.8	5.2	13.5	16 5.17	1 46.359			
	Weisse XVIII, 1314	16.4	24.8	33.0	17 16 24.73	1 45.149	—0 19.56	— 1.210	
July 3		40.5	. .	5.3					m. s. Corr. Chron. — 1 8.18
	Weisse XVIII, 993 .	44.4	52.8	1.1	18 11 52.82	2 42.652	+2 29.24	— 44.137	α δ
F.		9.7	. .	34.3					h. m. s. ° ′ ″
	Feronia	13.9	22.1	30.3	14 22.06	5 43.919			Weisse XVIII, 993, 18 40 14.68 —12 28 7.18
		55.1	. .	19.8					Feronia—Weisse XVIII, 993,
	Weisse XVIII, 993 .	59.0	7.4	15.8	16 7.42	2 42.800	2 29.04	44.240	Δ α Δ δ
		24.3	. .	48.8					h. m. s. m. s. ′ ″
	Feronia	28.3	36.4	44.5	18 36.46	5 44.170			Sid. T. 18 26 38.47 + 2 28.69 —11 19.50
									Δ ρ .00 — .49
		47.7	. .	12.5					ρ — .03 + 6.64
	Weisse XVIII, 993 .	51.5	59.9	8.4	20 0.00	2 42.671	2 28.80	44.429	
		16.6	. .	40.8					
	Feronia	20.6	28.7	37.3	22 28.80	5 44.230			
		35.3	. .	0.3					
	Weisse XVIII, 993 .	39.2	47.5	55.9	25 47.64	2 42.702	2 28.56	44.430	
		3.8	. .	28.6					
	Feronia	7.5	16.3	24.8	28 16.20	5 44.262			
		55.5	. .	20.2					
	Weisse XVIII, 993 .	59.4	7.7	16.3	30 7.82	2 44.140	2 28.56	44.189	
		24.2	. .	48.7					
	Feronia	27.8	36.4	44.8	32 36.38	5 45.459			
		1.8	. .	26.6					
	Weisse XVIII, 993 .	5.7	14.2	22.7	34 14.20	2 44.186	2 28.44	44.343	
		30.2	. .	55.0					
	Feronia	34.3	42.5	51.2	36 42.64	5 45.659			
		43.5	. .	8.2					
	Weisse XVIII, 993 .	47.3	55.9	4.2	38 55.82	2 44.222	+2 28.20	— 44.358	
		11.8	. .	36.4					
	Feronia	15.8	23.9	32.2	18 41 24.02	5 45.710			
July 5	Weisse XVIII, 874 .	0.4	9.0	17.4	17 12 8.93	2 33.011	+0 35.54	— 44.778	m. s. Corr. Chron. — 1 7.18
	Feronia	35.8	44.4	53.2	12 44.47	5 34.919			α δ
F.									h. m. s. ° ′ ″
	Weisse XVIII, 874 .	25.7	34.2	42.8	13 34.23	2 32.987	0 35.47	44.795	Weisse XVIII, 993, 18 40 14.69 —12 28 7.05
	Feronia	1.1	9.6	18.4	14 9.70	5 34.912			
									Feronia—Weisse XVIII, 993,
	Weisse XVIII, 993 .	25.9	34.4	43.1	15 34.47	2 33.021	0 35.53	44.661	Δ α Δ δ
	Feronia	1.6	9.9	18.5	16 10.00	5 34.812			h. m. s. m. s. ′ ″
									Sid. T. 17 19 5.26 + 0 35.26 —11 26.05
	Weisse XVIII, 993 .	27.9	36.3	44.9	17 36.37	2 33.112	0 35.33	44.673	Δ ρ — .01 — .53
	Feronia	3.4	11.6	20.1	18 11.70	5 34.915			ρ — .16 + 6.54
	Weisse XVIII, 993 .	53.8	2.3	10.7	20 2.27	2 33.142	+0 35.20	— 44.788	
	Feronia	29.2	37.4	45.8	17 20 37.47	5 35.060			

(Continued.)

FERONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 5	Weisse XVIII, 993.	35.2	43.6	52.1	17 21 43.63	2 33.200	+0 35.27	— 44.781	
F.	Feronia	10.8	18.7	27.2	22 18.90	5 35.111			
	Weisse XVIII, 993.	19.5	27.8	36.5	23 27.93	2 33.175	0 35.00	44.665	
	Feronia	54.7	2.8	11.4	24 2.93	5 34.970			
	Weisse XVIII, 993.	8.4	16.7	25.2	25 16.77	2 33.235	0 34.96	44.725	
	Feronia	43.2	51.7	0.3	25 51.73	5 35.090			
	Weisse XVIII, 993.	1.8	9.8	18.7	27 10.10	2 33.276	+0 35.00	— 44.705	
	Feronia	36.6	45.1	53.6	17 27 45.10	5 35.111			
July 6	Feronia	19.1	27.4	36.1	17 11 27.53	4 49.980			m. s. Corr. Chron. — 1 6.68
H.	Weisse XVIII, 993.	40.8	49.4	58.0	11 49.40	1 47.045	—0 21.87	— 45.928	α δ h. m. s. ° ′ ″
	Feronia	53.5	2.0	10.4	14 1.97	4 49.982			Weisse XVIII, 993, 18 40 14.71 —12 28 6.99
	Weisse XVIII, 993.	15.5	23.8	32.3	14 23.87	1 47.220	0 21.90	45.755	Feronia—Weisse XVIII, 993,
	Feronia	17.1	25.6	34.0	16 25.57	4 50.094			Δ α Δ δ
	Weisse XVIII, 993.	39.0	47.5	56.0	16 47.50	1 47.308	0 21.93	45.779	h. m. s. m. s. ′ ″
	Feronia	47.1	55.7	4.2	18 55.67	4 50.106			Sid. T. 17 21 51.02 — 0 22.25 —11 42.04
	Weisse XVIII, 993.	9.3	17.7	26.2	19 17.73	1 47.329	0 22.06	45.770	Δ ρ — .01 — .54
	Feronia	15.2	23.6	32.1	21 23.63	4 50.174			ρ — .15 + 6.55
	Weisse XVIII, 993.	37.4	45.9	54.3	21 45.87	1 47.390	0 22.24	45.777	
	Feronia	42.9	51.2	59.7	23 51.27	4 50.153			
	Weisse XVIII, 993.	5.1	13.4	22.0	24 13.50	1 47.413	0 22.23	45.733	
	Feronia	35.7	44.0	52.6	26 44.10	4 50.240			
	Weisse XVIII, 993.	58.2	6.6	15.0	27 6.60	1 47.533	0 22.50	45.700	
	Feronia	31.1	39.4	48.0	29 39.50	4 50.306			
	Weisse XVIII, 993.	53.4	1.9	10.3	30 1.87	1 47.614	0 22.37	45.685	
	Feronia	12.1	20.6	29.1	32 20.60	4 50.450			
	Weisse XVIII, 993.	34.9	43.2	51.6	32 43.23	1 47.600	0 22.63	45.843	
	Feronia	38.7	47.2	55.6	34 47.17	4 50.457			
	Weisse XVIII, 993.	1.5	9.9	18.4	17 35 9.93	1 47.682	—0 22.76	— 45.768	
July 13	Weisse XVIII, 792.	30.3	42.8	55.0	17 59 42.70	3 42.225	+0 17.63	+ 15.415	m. s. Corr. Chron. — 1 1.60
H.	Feronia	48.0	0.3	12.7	18 0 0.33	2 39.595			α δ h. m. s. ° ′ ″
	Weisse XVIII, 792.	43.2	55.5	8.0	3 55.57	3 42.345	0 17.56	15.532	Weisse XVIII, 792, 18 33 5.23 —12 49 12.00
	Feronia	0.8	13.1	25.5	4 13.13	2 39.598			Feronia—Weisse XVIII, 792,
	Weisse XVIII, 792.	0.9	13.2	25.6	7 13.23	3 42.144	0 17.44	15.699	Δ α Δ δ
	Feronia	18.4	30.6	43.0	7 30.67	2 39.230			h. m. s. m. s. ′ ″
	Weisse XVIII, 792.	43.6	55.9	8.4	9 55.97	3 42.052	0 17.36	15.573	Sid. T. 18 13 2.49 + 0 17.17 + 3 58.01
	Feronia	0.9	13.3	25.8	10 13.33	2 39.264			Δ ρ .00 + .17
	Weisse XVIII, 792.	8.5	21.0	33.3	12 20.93	3 42.039	0 17.24	15.489	ρ — .04 + 6.59
	Feronia	25.8	38.3	50.4	12 38.17	2 39.335			
	Weisse XVIII, 792.	30.4	42.8	55.2	15 42.80	3 42.095	0 17.23	15.530	
	Feronia	47.8	0.0	12.3	16 0.03	2 39.350			
	Weisse XVIII, 792.	2.5	15.0	27.5	18 15.00	3 42.137	0 17.00	15.527	
	Feronia	19.7	32.0	44.3	18 32.00	2 39.395			
	Weisse XVIII, 792.	34.9	47.2	59.9	20 47.33	3 42.160	0 16.87	15.471	
	Feronia	51.9	4.2	16.5	21 4.20	2 39.474			
	Weisse XVIII, 792.	31.9	44.2	56.7	23 44.27	3 42.155	0 16.73	15.420	
	Feronia	48.6	1.1	13.3	24 1.00	2 39.520			
	Weisse XVIII, 792.	58.9	11.2	23.9	26 11.33	3 42.255	+0 16.67	+ 15.535	
	Feronia	15.6	28.0	40.4	18 26 28.00	2 39.505			

FERONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
July 14	Feronia	19.1	27.5	35.9	16 53 27.50	2 34.640			Corr. Chron. — 1 0.57
	Weisse XVIII, 792	50.7	59.3	7.8	53 59.27	3 32.558	—0 31.77	+ 10.703	α δ
F.									h. m. s. ° ′ ″
	Feronia	46.7	55.2	3.4	55 55.10	2 34.591			Weisse XVIII, 792, 18 33 5.24 —12 49 11.95
	Weisse XVIII, 792	18.3	26.8	35.4	56 26.83	3 32.736	0 31.73	10.930	
									Feronia—Weisse XVIII, 792,
	Feronia	13.2	21.5	30.1	58 21.60	2 34.710			Δ α Δ δ
	Weisse XVIII, 792	. .	53.5	2.2	16 58 53.65	3 32.660	0 32.05	10.735	h. m. s. m. s. ′ ″
									Sid. T. 17 5 48.32 — 0 32.25 + 2 44.71
	Feronia	59.6	8.2	16.5	17 0 8.10	2 34.708			Δ ρ .00 + .13
	Weisse XVIII, 792	31.6	40.0	48.7	0 40.10	3 32.703	0 32.00	10.780	p — .05 + 6.57
	Feronia	54.5	2.8	11.4	2 2.90	2 34.769			
	Weisse XVIII, 792	26.4	34.8	43.3	2 34.83	3 32.789	0 31.93	10.805	
	Feronia	33.8	42.1	50.5	5 42.13	2 34.829			
	Weisse XVIII, 792	5.8	14.3	22.7	6 14.27	3 32.900	0 32.14	10.856	
	Feronia	2.8	11.5	19.9	7 11.40	2 34.983			
	Weisse XVIII, 792	35.5	43.7	52.2	7 43.80	3 32.890	0 32.40	10.692	
	Feronia	54.6	2.9	11.3	11 2.93	2 34.995			
	Weisse XVIII, 792	26.7	35.3	43.7	11 35.23	3 32.982	0 32.30	10.772	
	Feronia	8.4	16.6	24.9	13 16.63	2 35.051			
	Weisse XVIII, 792	40.6	49.2	57.7	13 49.17	3 32.991	0 32.54	10.725	
	Feronia	16.3	24.7	33.2	16 24.73	2 35.220			
	Weisse XVIII, 792	49.0	57.3	5.8	16 57.37	3 33.042	0 32.64	10.607	
	Feronia	31.8	40.2	48.6	17 40.20	2 35.271			
	Weisse XVIII, 792	4.5	12.8	21.5	18 12.93	3 33.132	0 32.73	10.646	
	Feronia	30.0	38.3	46.6	20 38.30	2 35.279			
	Weisse XVIII, 792	2.8	11.0	19.5	17 21 11.10	3 33.109	—0 32.80	+ 10.615	
July 17	Weisse XVIII, 698	28.9	37.4	46.1	16 46 37.47	3 36.895	+0 3.30	— 14.292	m. s.
	Feronia	32.4	40.6	49.3	46 40.77	4 38.110			Corr. Chron. — 0 57.95
F.									α δ
	Weisse XVIII, 698	11.9	20.5	29.2	48 20.53	3 36.892	0 3.24	14.356	h. m. s. ° ′ ″
	Feronia	15.3	23.7	32.3	48 23.77	4 38.171			Weisse XVIII, 696, 18 30 0.55 —12 47 18.35
	Weisse XVIII, 698	43.8	52.1	0.6	49 52.17	3 36.940	0 3.16	14.388	Feronia—Weisse XVIII, 696,
	Feronia	47.0	55.3	3.7	49 55.33	4 38.251			Δ α Δ δ
									h. m. s. m. s. ′ ″
	Weisse XVIII, 698	19.3	27.6	36.7	51 27.87	3 36.962	0 3.23	14.433	Sid. T. 17 3 8.27 + 0 2.75 — 3 41.96
	Feronia	22.6	31.0	39.7	51 31.10	4 38.318			Δ ρ .00 — .17
									p — .16 + 6.40
	Weisse XVIII, 698	42.1	50.3	58.9	58 50.43	3 37.290	0 3.00	14.436	
	Feronia	45.2	53.3	1.8	16 58 53.43	4 38.649			
	Weisse XVIII, 698	20.7	29.3	37.8	17 1 29.27	3 37.275	0 2.80	14.543	
	Feronia	23.5	32.1	40.6	1 32.07	4 38.741			
	Weisse XVIII, 698	57.4	5.8	14.4	2 5.87	3 37.343	0 2.80	14.489	
	Feronia	0.0	8.6	17.4	3 8.67	4 38.755			
	Weisse XVIII, 698	35.8	44.1	52.5	7 44.13	3 37.339	0 2.67	14.609	
	Feronia	38.4	46.8	55.2	7 46.80	4 38.871			
	Weisse XVIII, 696	35.8	44.2	52.6	9 44.20	3 37.565	0 2.60	14.387	
	Feronia	38.4	46.8	55.2	9 46.80	4 38.875			
	Weisse XVIII, 696	14.7	22.9	31.7	11 23.10	3 37.462	0 2.43	14.520	
	Feronia	16.9	25.5	34.2	11 25.53	4 38.905			
	Weisse XVIII, 696	53.7	2.1	10.6	13 2.13	3 37.562	0 2.40	14.467	
	Feronia	56.2	4.4	13.0	13 4.53	4 38.952			
	Weisse XVIII, 696	27.6	35.9	44.4	16 35.97	3 37.550	0 2.30	14.537	
	Feronia	29.9	38.1	46.8	16 38.27	4 39.010			
	Weisse XVIII, 696	25.4	33.6	42.4	18 33.80	3 37.739	0 2.23	14.576	
	Feronia	27.6	36.0	44.5	18 36.03	4 39.238			
	Weisse XVIII, 696	53.2	1.6	10.1	20 1.63	3 37.667	+0 2.30	— 14.575	
	Feronia	55.4	4.2	12.2	17 20 3.93	4 39.165			

MELETE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ a	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865.		1.8	. .	26.3					m. s.
June 28									Corr. Chron. — 1 8.77
	Weisse XVII, 755 .	5.7	14.1	22.4	17 14 14.06	3 45.252	+2 9.04	+ 14.285	a δ
F.		39.0	. .	3.4					h. m. s. ° ′ ″
	Weisse XVII, 779 .	43.0	51.2	59.6	14 51.24	4 54.340	1 31.86	36.450	Weisse XVII, 755, 17 39 15.20 — 7 55 17.15
		11.1	. .	35.2					Weisse XVII, 779, 17 39 52.39 — 8 0 57.17
	Melete	14.8	23.0	31.4	16 23.10	2 43.752			
		25.3	. .	59.8					Melete—Weisse XVII, 755,
	Weisse XVII, 755 .	29.3	37.3	45.9	18 37.52	3 45.349	2 8.95	14.255	Δ a Δ δ
				26.6					h. m. s. m. s. ′ ″
	Weisse XVII, 779 .	6.2	. .	22.6	19 14.32	4 54.490	1 32.15	36.473	Sid. T. 17 34 35.08 + 2 8.30 + 3 40.50
									Δ ρ .00 + .13
	Melete	38.3	46.3	54.8	20 46.47	2 43.879			p — .02 + 6.07
		1.6	. .	26.0					Melete—Weisse XVII, 779,
	Weisse XVII, 755 .	5.4	13.8	22.1	26 13.78	3 45.398	2 8.74	14.323	h. m. s.
		38.8	. .	3.1					Sid. T. 17 34 35.08 + 1 31.33 + 9 20.07
	Weisse XVII, 779 .	42.6	50.9	59.5	26 50.98	4 54.490	1 31.54	36.492	Δ ρ .00 + .33
		10.5	. .	34.5					p — .02 + 6.07
	Melete	14.3	22.4	30.9	28 22.52	2 43.860			
		59.7	. .	24.1					
	Weisse XVII, 755 .	3.4	11.8	20.1	31 11.82	3 45.595	2 8.38	14.370	
				0.8					
	Weisse XVII, 779 .	. .	. .	56.9	31 48.57	4 54.502	1 31.63	36.354	
		8.2	. .	32.3					
	Melete	11.8	20.2	28.5	33 20.20	2 44.010			
		21.8	. .	45.8					
	Weisse XVII, 755 .	25.5	33.6	41.8	34 33.70	3 45.572	2 8.56	14.499	
		58.6	. .	23.0					
	Weisse XVII, 779 .	2.7	11.0	19.2	35 10.90	4 54.530	1 31.36	36.534	
		30.3	. .	54.2					
	Melete	34.1	42.4	50.3	36 42.26	2 43.858			
		11.4	. .	35.7					
	Weisse XVII, 755 .	15.2	23.4	31.9	38 23.52	3 45.561	2 8.18	14.347	
		48.7	. .	12.9					
	Weisse XVII, 779 .	52.4	0.7	8.8	39 0.70	4 54.621	1 31.00	36.484	
		19.8	. .	43.7					
	Melete	23.4	31.6	40.0	40 31.70	2 43.999			
		27.6	. .	52.2					
	Weisse XVII, 755 .	31.8	39.8	48.3	42 39.94	3 45.552	2 8.00	14.262	
		5.1	. .	29.3					
	Weisse XVII, 779 .	8.1	17.1	25.2	43 16.96	4 54.702	1 30.98	36.489	
		36.0	. .	59.8					
	Melete	39.7	47.9	56.3	44 47.94	2 44.075			
		0.8	. .	25.2					
	Weisse XVII, 755 .	4.8	13.0	21.3	46 13.02	3 45.570	2 7.92	14.476	
		37.7	. .	2.1					
	Weisse XVII, 779 .	41.6	50.0	58.3	46 49.94	4 54.708	1 31.00	36.691	
		8.8	. .	33.2					
	Melete	12.6	20.8	29.3	48 20.94	2 43.879			
		59.7	. .	23.8					
	Weisse XVII, 755 .	3.5	11.7	20.1	50 11.76	3 45.655	2 7.80	14.571	
				1.1					
	Weisse XVII, 779 .	. .	49.1	. .	50 49.11	4 54.693	+1 30.45	+ 36.686	
		7.3							
	Melete	11.3	19.7	. .	17 52 19.56	2 43.869			
July 3		5.5	. .	29.8					
	Melete	9.5	17.7	25.8	16 12 17.66	2 37.490			
F.		28.3	. .	52.8					
	Weisse XVII, 755 .	32.3	40.6	48.8	13 40.56	3 34.915	—1 22.90	+ 10.210	
		38.9	. .	3.4					
	Weisse XVII, 755 .	42.8	50.9	59.5	14 51.10	2 37.492			
		1.8	. .	26.3					
	Melete	5.8	14.2	22.3	16 16 14.08	2 47.830	—1 22.98	+ 10.338	

(Continued.)

MELETE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. July 3 F.		43.3	. .	7.4					m. s. Corr. Chron. — 1 7.79
	Melete	46.9	55.2	3.7	16 19 55.30	2 37.701			α δ
		6.3	. .	30.7					h. m. s. ° ′ ″
	Weisse XVII, 755 .	10.2	18.6	27.0	21 18.56	2 47.769	—1 23.26	+ 10.068	Weisse XVII, 755, 17 39 15.22 — 7 55 16.75
		46.8	. .	11.1					Melete—Weisse XVII, 755,
	Melete	50.4	58.8	7.2	22 58.86	2 37.660			Δ α Δ δ
		9.7	. .	34.3					h. m. s. m. s. ′ ″
	Weisse XVII, 755 .	13.6	21.9	30.3	24 21.96	2 47.852	1 23.10	10.192	Sid. T. 16 25 54.88 — 1 23.38 + 2 35.21
		37.0	. .	1.3					Δ ρ .00 — .10
	Melete	40.8	49.2	57.5	25 49.16	2 37.721			ρ — .14 + 5.54
		0.5	. .	24.7					
	Weisse XVII, 755 .	4.3	12.4	20.8	27 12.54	2 47.922	1 23.38	10.201	
		52.3	. .	16.4					
	Melete	56.1	4.1	12.6	29 4.30	2 37.848			
		15.6	. .	40.0					
	Weisse XVII, 755 .	19.4	37.7	35.9	30 37.72	2 48.002	1 23.42	10.154	
		25.2	. .	49.4					
	Melete	29.0	37.2	45.5	31 37.26	2 37.912			
		48.5	. .	13.0					
	Weisse XVII, 755 .	52.5	0.8	9.2	33 0.80	2 48.010	1 23.54	10.098	
		6.4	. .	30.8					
	Melete	10.4	18.5	27.0	35 18.62	2 37.992			
		30.2	. .	54.6					
	Weisse XVII, 755 .	33.9	42.3	50.8	36 42.36	2 48.082	1 23.74	10.090	
		47.3	. .	11.5					
	Melete	50.9	59.3	7.6	37 59.32	2 37.961			
		10.8	. .	35.3					
	Weisse XVII, 755 .	14.5	22.8	31.1	39 22.90	2 48.185	1 23.58	10.224	
		21.8	. .	46.6					
	Melete	26.0	34.2	42.6	40 34.24	2 38.142			
		45.9	. .	10.2					
	Weisse XVII, 755 .	49.8	58.2	6.4	16 41 58.10	2 48.162	—1 23.86	+ 10.020	
July 5 F.		49.9	. .	14.1					m. s. Corr. Chron. — 1 7.29
	Melete	53.8	1.9	10.4	16 4 2.02	4 46.249			α δ
		59.2	. .	23.8					h. m. s. ° ′ ″
	Weisse XVII, 697 .	2.9	11.4	19.6	4 11.38	5 40.332			Weisse XVII, 713, 7 37 18.23 — 7 48 28.14
		33.7	. .	58.4					Melete—Weisse XVII, 713,
	Weisse XVII, 713 .	37.6	46.2	54.6	4 46.10	2 44.055	—0 44.08	— 28.056	Δ α Δ δ
		42.4	. .	6.5					h. m. s. m. s. ′ ″
	Melete	46.1	54.5	2.8	7 54.46	4 46.292			Sid. T. 16 28 7.79 — 0 44.67 — 7 9.95
		26.5	. .	51.0					Δ ρ .00 — .27
	Weisse XVII, 713 .	30.4	38.5	47.0	8 38.68	2 44.085	0 44.22	28.069	ρ — .13 + 5.84
		36.7	. .	1.2					
	Melete	40.6	48.7	57.2	14 48.88	4 46.529			
		20.8	. .	45.4					
	Weisse XVII, 713 .	24.6	33.2	41.5	15 33.10	2 44.500	0 44.22	27.891	
		12.2	. .	36.3					
	Melete	15.8	24.2	32.3	21 24.16	4 46.731			
		56.3	. .	20.7					
	Weisse XVII, 713 .	0.2	8.6	16.9	22 8.54	2 44.452	0 44.38	28.141	
		37.3	. .	1.5					
	Melete	41.2	49.3	57.7	22 49.40	4 46.579			
		21.7	. .	46.3					
	Weisse XVII, 713 .	25.6	33.8	42.2	23 33.92	2 44.492	0 44.52	27.949	
		16.7	. .	41.3					
	Melete	20.6	28.9	37.1	25 28.92	4 46.702			
		1.2	. .	25.6					
	Weisse XVII, 713 .	5.3	13.5	21.9	16 26 13.50	2 44.499	—0 44.58	— 28.065	

(Continued.)

MELETE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. July 5		22.6	. .	46.1					
F.	Melete	25.8	33.9	42.4	16 27 34.16	4 46.683			
		6.5	. .	30.8					
	Weisse XVII, 713 .	10.4	18.6	26.9	28 18.64	2 44.552	—0 44.48	— 27.993	
		39.2	. .	3.2					
	Melete	43.1	51.3	59.6	29 51.28	4 46.630			
		23.8	. .	48.2					
	Weisse XVII, 713 .	27.5	35.8	44.2	30 35.90	2 44.612	0 44.62	27.880	
		31.8	. .	56.2					
	Melete	35.7	43.9	52.2	32 43.96	4 46.842			
		16.7	. .	41.2					
	Weisse XVII, 713 .	20.6	28.7	37.0	33 28.84	2 44.670	0 44.88	28.034	
		22.5	. .	46.8					
	Melete	26.4	34.6	42.9	35 34.64	4 46.898			
		7.2	. .	31.7					
	Weisse XVII, 713 .	11.2	19.4	27.8	36 19.46	2 44.729	0 44.82	28.031	
		34.1	. .	58.4					
	Melete	37.8	45.8	54.5	37 46.12	4 46.892			
		18.9	. .	42.9					
	Weisse XVII, 713 .	22.8	30.9	39.3	38 30.96	2 44.675	0 44.84	28.079	
		5.3	. .	29.6					
	Melete	9.1	17.3	25.7	40 17.40	4 46.940			
		50.3	. .	14.7					
	Weisse XVII, 713 .	54.2	2.4	10.7	41 2.46	2 44.771	0 45.06	28.031	
		10.5	. .	34.9					
	Melete	14.5	22.6	30.8	42 22.66	4 46.911			
		55.5	. .	19.8					
	Weisse XVII, 713 .	59.5	7.6	15.8	43 7.64	2 44.750	0 44.98	28.023	
		1.8	. .	26.1					
	Melete	5.5	13.8	22.2	45 13.88	4 47.190			
		46.8	. .	10.7					
	Weisse XVII, 713 .	50.8	59.0	7.3	45 58.92	2 44.914	0 45.04	28.138	
		40.7	. .	5.3					
	Melete	44.6	52.8	1.2	50 52.92	4 47.169			
		25.8	. .	50.6					
	Weisse XVII, 713 .	30.0	38.2	46.7	16 51 38.26	2 44.910	—0 45.34	— 28.121	
July 6		25.4	. .	50.1					Corr. Chron. m. s. — 1 6.73
H.	Melete	29.2	37.9	46.2	15 58 37.76	2 45.407			α h. m. s. δ ° ′ ″
		11.9	. .	36.3					
	Weisse XVII, 697 .	15.9	24.2	32.6	15 59 24.18	2 51.688	—0 46.42	+ 6.281	Weisse XVII, 697, 17 36 43.75 — 7 57 25.36
		49.9	. .	14.4					Melete—Weisse XVII, 697,
	Melete	53.7	2.2	10.6	16 1 2.16	2 45.403			Δ α Δ δ
		36.6	. .	1.0					h. m. s. m. s. ′ ″
	Weisse XVII, 697 .	40.4	48.8	57.0	1 48.76	2 51.725	0 46.60	6.322	Sid. T. 16 9 8.37 — 0 46.72 + 1 36.06
		44.6	. .	9.0					Δ ρ .00 + .06
	Melete	48.3	56.9	5.2	3 56.80	2 45.551			ρ — .15 + 5.77
		31.0	. .	55.6					
	Weisse XVII, 697 .	35.0	43.3	51.8	4 43.34	2 51.843	0 46.54	6.292	
		11.0	. .	35.4					
	Melete	14.8	23.1	31.5	6 23.16	2 45.569			
		57.6	. .	22.0					
	Weisse XVII, 697 .	1.4	9.7	18.2	7 9.78	2 51.854	0 46.62	6.285	
		43.9	. .	8.2					
	Melete	47.6	56.0	4.3	8 56.00	2 45.630			
		30.2	. .	54.8					
	Weisse XVII, 697 .	34.4	42.6	51.0	16 9 42.60	2 51.935	—0 46.60	+ 6.305	

(Continued.)

MELETE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865.		10.4	. .	35.0					
July 6	Melete	14.4	22.8	31.2	16 11 22.76	2 45.750			
H.		57.3	. .	21.6					
	Weisse XVII, 697 .	1.2	9.4	17.9	12 9.48	2 51.994	—0 46.72	+ 6.244	
		11.0	. .	35.6					
	Melete	15.0	23.4	31.7	14 23.34	2 45.814			
		58.0	. .	22.4					
	Weisse XVII, 697 .	2.0	10.2	18.6	15 10.24	2 52.058	0 46.90	6.244	
		42.0	. .	6.6					
	Melete	45.9	54.3	2.7	16 54.30	2 45.903			
		28.9	. .	53.5					
	Weisse XVII, 697 .	32.9	41.2	49.6	17 41.22	2 52.087	0 46.92	6.184	
		5.0	. .	29.4					
	Melete	9.0	17.0	25.6	19 17.20	2 45.897			
		51.9	. .	16.3					
	Weisse XVII, 697 .	56.0	4.2	12.5	20 4.18	2 52.130	0 46.98	6.233	
		25.2	. .	49.8					
	Melete	29.1	37.6	45.8	21 37.50	2 45.946			
		12.2	. .	36.5					
	Weisse XVII, 697 .	16.1	24.4	32.8	16 22 24.40	2 52.190	—0 46.90	+ 6.244	

ASIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 5	Weisse XVIII, 779	7.4	15.8	24.2	17 57 15.80	2 47.915	+0 41.47	— 38.441	m. s. Corr. Chron. — 1 7.15
	Asia	48.9	57.3	5.6	57 57.27	5 43.486			α δ
F.									h. m. s. ° ′ ″
	Weisse XVIII, 779	36.3	44.8	53.3	58 44.80	2 47.880	0 41.17	38.312	Weisse XVIII, 779, 18 32 30.49 —11 13 7.11
	Asia	17.7	25.8	34.4	17 59 25.97	5 43.322			
									Asia—Weisse XVIII, 779,
	Weisse XVIII, 779	37.9	46.4	54.9	18 0 46.40	2 47.934	0 41.17	38.212	Δ α Δ δ
	Asia	19.3	27.6	35.8	1 27.57	5 43.276			h. m. s. m. s. ′ ″
									Sid. T. 18 1 50.80 + 0 41.14 — 9 47.59
	Weisse XVIII, 779	53.2	1.8	10.3	3 1.77	2 47.933	0 41.13	38.264	Δ ρ .00 — .41
	Asia	34.7	42.8	51.2	3 42.90	5 43.327			p — .06 + 6.49
	Weisse XVIII, 779	41.4	49.8	58.2	4 49.80	2 47.910	0 41.10	38.370	
	Asia	22.6	30.9	39.2	4 30.90	5 43.410			
	Weisse XVIII, 779	53.7	2.2	10.9	10 2.27	2 48.032	+0 40.80	— 38.267	
	Asia	34.5	. .	. .	18 10 43.07	5 43.429			
									m. s.
July 6	Asia	2.4	14.8	27.0	16 36 14.73	4 43.326			Corr. Chron. — 1 6.68
	Weisse XVIII, 779	10.0	22.4	34.8	36 22.40	1 46.793	—0 7.67	— 39.526	α δ
H.									h. m. s. ° ′ ″
	Asia	28.0	40.3	52.7	39 40.33	4 43.300			Weisse XVIII, 779, 18 32 30.49 —11 13 6.96
	Weisse XVIII, 779	35.7	48.1	0.4	39 48.07	1 46.700	0 7.74	39.593	
									Asia—Weisse XVIII, 779,
	Asia	30.0	42.4	54.7	40 42.37	4 43.362			Δ α Δ δ
	Weisse XVIII, 779	38.0	50.2	2.7	40 50.30	1 46.828	0 7.93	39.527	h. m. s. m. s. ′ ″
									Sid. T. 16 46 6.68 — 0 8.13 —10 6.43
	Asia	6.6	18.9	31.3	45 18.93	4 43.404			Δ ρ + .01 — .45
	Weisse XVIII, 779	14.7	27.1	39.2	45 27.00	1 46.920	0 8.07	39.477	p — .19 + 6.45
	Asia	4.0	16.2	28.6	46 16.27	4 43.420			
	Weisse XVIII, 779	12.1	24.5	36.8	46 24.47	1 46.947	0 8.20	39.466	
	Asia	12.2	24.6	37.0	48 24.60	4 43.550			
	Weisse XVIII, 779	20.3	32.8	45.1	48 32.73	1 47.049	0 8.13	39.494	
	Asia	15.0	27.2	39.6	50 27.27	4 43.622			
	Weisse XVIII, 779	23.2	35.6	47.8	50 35.53	1 47.026	0 8.26	39.589	
	Asia	32.1	44.4	56.8	52 44.43	4 43.597			
	Weisse XVIII, 779	40.4	52.8	5.0	52 52.73	1 47.050	0 8.30	39.540	
	Asia	58.8	11.1	23.4	55 11.10	4 43.766			
	Weisse XVIII, 779	7.2	19.6	32.0	55 19.60	1 47.127	0 8.50	39.632	
	Asia	1.2	13.7	25.9	57 13.60	4 43.753			
	Weisse XVIII, 779	9.8	22.2	34.4	16 57 22.13	1 47.200	—0 8.53	— 39.546	
									m. s.
July 13		23.6	. .	48.3					Corr. Chron. — 1 1.65
	Weisse XVIII, 570	27.6	35.8	44.2	17 1 35.90	1 44.650	+1 41.92	— 27.126	α δ
H.		5.3	. .	30.2					h. m. s. ° ′ ″
	Asia	9.4	17.9	26.3	3 17.82	3 41.860			Weisse XVIII, 570, 18 24 51.80 —11 22 46.12
		44.6	. .	9.2					
	Weisse XVIII, 570	48.6	56.9	5.3	4 56.92	1 44.698	1 42.00	27.268	Asia—Weisse XVIII, 570,
		26.6	. .	51.1					Δ α Δ δ
	Asia	30.6	39.0	47.3	6 38.92	3 42.050			h. m. s. m. s. ′ ″
									Sid. T. 17 18 53.34 + 1 41.41 — 6 58.28
		57.7	. .	22.3					Δ ρ .00 — .35
	Weisse XVIII, 570	1.6	9.8	18.3	8 9.94	1 44.812	1 41.70	27.304	p — .02 + 6.50
		39.1	. .	4.0					
	Asia	43.2	51.6	0.3	9 51.64	3 42.200			
		20.0	. .	44.7					
	Weisse XVIII, 570	24.0	32.3	40.8	13 32.36	1 44.854	1 41.50	27.290	
		1.4	. .	26.3					
	Asia	5.3	14.0	22.3	15 13.86	3 42.228			
		32.4	. .	57.0					
	Weisse XVIII, 570	36.3	44.8	53.2	16 44.74	1 45.024	+1 41.42	— 27.235	
		13.9	. .	38.4					
	Asia	17.8	26.1	34.6	17 18 26.16	3 42.343			

(Continued.)

ASIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 13		49.3	. .	14.1					
H.	Weisse XVIII, 570	53.2	1.7	10.2	17 20 1.70	1 45.103	+1 41.42	— 27.251	
		30.9	. .	55.4					
	Asia	34.7	43.1	51.5	21 43.12	3 42.438			
		25.0	. .	49.8					
	Weisse XVIII, 570	29.0	37.2	46.0	23 37.40	1 45.210	1 41.24	27.316	
		6.4	. .	31.0					
	Asia	10.2	18.6	27.0	25 18.64	3 42.610			
		50.4	. .	15.1					
	Weisse XVIII, 570	54.4	2.7	11.2	28 2.76	1 45.345	1 41.10	27.211	
		31.6	. .	56.1					
	Asia	35.4	43.9	52.3	29 43.86	3 42.640			
		1.7	. .	26.4					
	Weisse XVIII, 570	5.6	14.0	22.4	31 14.02	1 45.314	1 40.98	27.382	
		42.7	. .	7.2					
	Asia	46.6	55.0	3.5	32 55.00	3 42.780			
		7.6	. .	32.3					
	Weisse XVIII, 570	11.6	20.0	28.4	34 19.98	1 45.396	+1 40.86	— 27.340	
		48.6	. .	13.1					
	Asia	52.5	0.7	9.3	17 36 0.84	3 42.820			
July 14	Weisse XVIII, 570	51.9	0.3	8.6	17 49 0.27	3 41.181	+0 54.30	— 33.499	m. s. Corr. Chron. — 1 0.93
	Asia	46.2	54.6	2.9	49 54.57	5 44.595			α δ
F.									h. m. s. ° ′ ″
	Weisse XVIII, 570	41.6	49.8	58.3	51 49.90	3 41.312	0 53.97	33.373	Weisse XVIII, 570, 18 24 51.90 —11 22 46.15
	Asia	35.6	43.7	52.3	52 43.87	5 44.600			
									Asia—Weisse XVIII, 570,
	Weisse XVIII, 570	36.2	44.6	52.8	53 44.53	3 41.222	0 53.87	33.543	Δ α Δ δ
	Asia	30.0	38.5	46.7	54 38.40	5 44.680			h. m. s. m. s. ′ ″
									Sid. T. 18 14 56.16 + 0 53.31 — 8 14.21
	Weisse XVIII, 570	34.8	42.8	51.4	55 43.00	3 41.359	0 54.00	33.375	Δ ρ .00 — .35
	Asia	28.8	36.8	. .	17 56 37.00	5 44.649			ρ — .02 + 6.50
	Weisse XVIII, 570	25.3	33.7	42.3	18 7 33.77	3 41.471	0 53.56	33.526	
	Asia	18.9	27.3	35.8	8 27.33	5 44.912			
	Weisse XVIII, 570	15.1	23.5	32.2	10 23.60	3 41.500	0 53 50	33.467	
	Asia	8.7	16.8	25.8	11 17.10	5 44.882			
	Weisse XVIII, 570	2.7	11.3	19.7	37 11.23	3 41.721	0 52.57	33.620	
	Asia	55.5	3.7	12.2	38 3.80	5 45.256			
	Weisse XVIII, 570	16.2	24.5	32.9	39 24.53	3 41.658	0 52.50	33.577	
	Asia	8.7	16.9	25.5	40 17.03	5 45.150			
	Weisse XVIII, 570	50.2	58.5	6.7	41 58.47	3 41.540	0 52.40	33.584	
	Asia	42.5	50.9	59.2	42 50.87	5 45.039			
	Weisse XVIII, 570	40.0	48.8	56.7	43 48.50	3 41.409	+0 52.40	— 33.706	
	Asia	32.4	40.8	49.5	18 44 40.90	5 45.030			

HESTIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 13		14.0	. .	39.1					Corr. Chron. — 1 1.57
	Oeltzen S. 20595 .	18.0	26.5	35.2	18 57 26.56	3 41.916	+0 5.90	+ 10.931	
H.		19.7	. .	45.0					α δ
	Hestia	24.0	32.4	41.2	57 32.46	2 43.770			h. m. s. ° ′ ″
									Oeltzen S. 20595, 20 25 30.05 —15 31 38.15
		46.6	. .	11.7					Hestia—Oeltzen S. 20595,
	Oeltzen S. 20595 .	50.7	59.3	7.9	18 59 59.24	3 42.059	0 5.80	11.170	Δ α Δ δ
		52.6	. .	17.4					h. m. s. m. s. ′ ″
	Hestia . . .	56.6	5.0	13.6	19 0 5.04	2 43.674			Sid. T. 19 8 1.03 + 0 5.54 + 2 48.57
									Δ ρ .00 + .15
		52.1	. .	17.2					ρ — .12 + 5.48
	Oeltzen S. 20595 .	56.2	4.7	13.3	2 4.70	3 41.976	0 5.82	10.980	
		58.2	. .	23.1					
	Hestia	2.1	10.5	18.7	2 10.52	2 43.781			
		54.3	.	19.4					
	Oeltzen S. 20595 .	58.4	7.0	15.6	5 6.94	3 42.145	0 5.68	10.962	
		0.2	. .	25.3					
	Hestia . .	4.1	12.5	21.0	5 12.62	2 43.968			
		12.6	. .	37.6					
	Oeltzen S. 20595	16.6	. .	33.7	7 25.12	3 42.223	0 5.54	11.003	
		18.2	. .	43.1					
	Hestia	22.2	30.6	39.2	7 30.66	2 44.005			
		9.5	. .	34.6					
	Oeltzen S. 20595 .	13.5	22.0	30.5	10 22.02	3 42.299	0 5.48	11.009	
		14.9	. .	40.0					
	Hestia	19.1	27.4	36.1	10 27.50	2 44.075			
		34.4	. .	59.7					
	Oeltzen S. 20595 .	38.5	47.1	55.7	12 47.08	3 42.290	0 5.46	10.975	
		40.0	. .	5.1					
	Hestia	44.1	52.5	1.0	12 52.54	2 44.100			
		42.5	. .	7.7					
	Oeltzen S. 20595 .	46.6	55.0	3.7	15 55.10	3 42.393	0 5.32	11.013	
				12.8					
	Hestia	51.9	0.4	9.0	16 0.42	2 44.165			
		0.5	. .	25.7					
	Oeltzen S. 20595 .	4.6	13.1	21.8	18 13.12	3 42.380	0 5.22	10.910	
		5.9	. .	30.9					
	Hestia	9.9	18.2	26.8	18 18.34	2 44.255			
		58.2	. .	23.3					
	Oeltzen S. 20595 .	2.3	10.8	19.4	20 10.80	3 42.436	+0 5.16	+ 10.959	
		3.6	. .	28.4					
	Hestia	7.3	15.9	24.6	19 20 15.96	2 44.262			
July 14	B. A. C. 7063 . .	51.4	59.9	8.6	20 1 59.97	2 38.932	+1 10.66	— 7.873	Corr. Chron. — 1 0.90
	Hestia	2.2	10.8	18.9	3 10.63	3 34.020			α δ
F.	Oeltzen S. 20595 .	47.6	56.2	4.7	3 56.17	3 32.892	—0 45.54	1.128	h. m. s. ° ′ ″
									B. A. C. 7063, 20 23 33.95 —15 29 56.45
	B. A. C. 7063 . .	27.8	36.5	45.3	8 36.53	2 39.049	+1 10.37	7.606	Oeltzen S. 20595, 20 25 30.06 —15 31 38.09
	Hestia	38.6	46.8	55.3	9 46.90	3 33.870			
	Oeltzen S. 20595 .	24.1	32.8	41.2	10 32.70	3 32.905	—0 45.80	0.965	Hestia—B. A. C. 7063,
									Δ α Δ δ
	B. A. C. 7063 . .	26.4	34.8	43.5	28 34.90	2 39.262	+1 9.75	7.883	h. m. s. m. s. ′ ″
	Hestia	36.2	44.5	. .	29 44.65	3 34.360			Sid. T. 20 17 53.00 + 1 10.06 — 1 59.40
	Oeltzen S. 20595 .	22.4	30.7	39.7	30 30.93	3 33.150	—0 46.28	1.210	Δ ρ .09 — .09
									ρ + .01 + 5.58
	B. A. C. 7063 . .	35.4	43.8	52.5	31 43.90	2 39.300	+1 9.47	7.776	
	Hestia	44.8	53.4	1.9	32 53.37	3 34.291			Hestia—Oeltzen S. 20595,
	Oeltzen S. 20595 .	31.4	39.9	48.4	20 33 39.90	3 33.219	—0 46.53	— 1.072	h. m. s.
									Sid. T. 20 17 53.00 — 0 46.04 — 0 16.79
									Δ ρ .00 — .01
July 25	Oeltzen S. 20442 .	0.0	8.6	17.3	18 27 8.63	1 39.988	+0 24.87	— 24.013	ρ + .01 + 5.58
	Hestia	24.9	33.3	42.3	27 33.50	3 34.085			
H.									
	Oeltzen S 20442 .	55.2	3.8	12.4	30 3.80	1 40.169	+0 25.03	— 24.144	
	Hestia	20.2	28.7	37.6	18 30 28.83	3 34.397			

(Continued.)

HESTIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
July 25	Oeltzen S. 20442 .	16.8	25.3	34.0	18 33 25.37	1 40.335	+0 24.76	— 24.041	Corr. Chron. — 0 48.23
	Hestia	41.5	50.1	58.8	33 50.13	3 34.460			α δ
H.									h. m. s. ° ′ ″
	Oeltzen S. 20442 .	46.1	54.8	3.4	38 54.77	1 40.200	0 24.56	23.968	Oeltzen S. 20442, 20 14 39.55 —16 2 45.25
	Hestia	10.7	19.2	28.1	18 39 19.33	3 34.252			
									Hestia—Oeltzen S. 20442,
	Oeltzen S. 20442 .	47.0	55.5	4.2	19 10 55.57	1 40.957	0 23.20	24.393	Δ α Δ δ
	Hestia	10.0	18.7	27.6	11 18.77	3 35.434			h. m. s. m. s. ′ ″
									Sid. T. 18 53 19.70 + 0 23.83 — 6 10.21
	Oeltzen S. 20442 .	29.9	38.6	47.2	13 38.57	1 41.075	0 23.13	24.311	Δ ρ — .01 — .35
	Hestia	53.0	1.7	10.4	14 1.70	3 35.470			p — .11 + 5.67
	Oeltzen S. 20442 .	59.9	8.3	17.2	17 8.47	1 41.350	0 22.56	24.076	
	Hestia	22.3	31.0	39.8	17 31.03	3 35.510			
	Oeltzen S. 20442 .	29.0	37.6	46.4	19 37.67	1 41.358	+0 22.50	— 24.161	
	Hestia	51.4	0.2	8.9	19 19 0.17	3 35.603			
Aug. 7		43.6	. .	9.0					m. s.
	Hestia	47.6	56.4	5.0	18 41 56.32	1 33.941			Corr. Chron. — 0 34.50
F.		59.3	. .	24.5					α δ
	(*9.5)	3.3	11.8	20.3	42 11.84	1 30.388			h. m. s. ° ′ ″
		46.1	. .	11.8					Oeltzen S. 20320, 20 5 37.43 —17 16 36.22
	Oeltzen S. 20320 .	50.3	58.9	7.5	43 58.92	5 48.950	—2 2.60	+ 75.010	
		30.1	. .	55.7					Hestia—Oeltzen S. 20320,
	Oeltzen S. 20330 .	34.4	42.7	51.6	44 42.90	2 42.175			Δ α Δ δ
		52.5	. .	17.1					h. m. s. m. s. ′ ″
	Oeltzen S. 20332 .	56.0	4.5	13.2	45 4.66	1 45.780			Sid. T. 19 3 8.21 — 2 3.51 +19 2.85
									Δ ρ + .02 + 1.06
		26.4	. .	51.5					p — .11 + 5.74
	Hestia	30.5	38.8	47.6	50 38.96	1 34.214			
		42.2	. .	7.5					
	(*9.5)	46.5	55.2	3.7	50 55.02	1 30.461			
		29.3							
	Oeltzen S. 20320 .	33.0	. .	. .	52 41.66	5 48.852	2 2.70	74.639	
		38.8	. .	4.1					
	Hestia	43.2	51.4	0.3	57 51.56	1 34.542			
		55.1	. .	20.4					
	(*9.5)	59.5	7.7	16.5	58 7.84	1 30.639			
		42.1	. .	7.7					
	Oeltzen S. 20320 .	46.4	55.2	3.8	18 59 55.04	5 49.065	2 3.48	74.524	
		47.4	. .	12.6					
	Hestia	51.7	0.1	8.6	19 3 0.08	1 34.639			
		3.8	. .	29.3					
	(*9.5)	8.1	16.6	25.4	3 16.64	1 30.850			
	Oeltzen S. 20320 .	55.1	3.7	. .	5 3.58	5 49.125	2 3.50	74.487	
		17.0	. .	42.5					
	Hestia	21.2	29.9	. .	22 29.83	1 35.130			
		34.3	. .	59.6					
	(*9.5) . . .	38.5	46.8	55.7	22 46.98	1 30.718			
		21.3	. .	46.8					
	Oeltzen S. 20320 .	25.5	34.2	42.9	24 34.14	5 49.272	2 4.31	74.143	
		2.9	. .	28.4					
	Hestia	6.8	15.5	. .	27 15.54	1 34.995			
		20.4	. .	45.6					
	(*9.5)	24.4	32.8	41.5	27 32.94	1 30.880			
		7.4	. .	32.8					
	Oeltzen S. 20320 .	11.3	19.9	28.8	19 29 20.04	5 49.284	—2 4.50	+ 74.287	

CIRCE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs	m. s.	revs.	
Aug. 11	Weisse XXI, 623 .	18.8	27.4	35.9	17 56 27.37	1 51.909	+0 35.25	— 25.472	m. s. Corr. Chron. — 0 37.05
	Weisse XXI, 628 .	29.7	38.2	47.1	56 38.33	1 39.191			α δ
F.	Circe	. .	2.6	11.2	17 57 2.62	4 34.388			h. m. s. ° ′ ″
									Weisse XXI, 623, 21 27 17.80 — 8 48 25.67
	Weisse XXI, 623 .	49.0	57.3	5.4	18 3 57.23	2 35.240	0 35.20	25.493	
	Weisse XXI, 628 .	0.3	8.6	16.6	4 8.50	1 40.051			Circe—Weisse XXI, 623,
	Circe	. .	. .	40.6	4 32.43	4 34.871			Δ α Δ δ
									h. m. s. m. s. ′ ″
	Weisse XXI, 623 .	48.9	57.1	5.5	7 57.17	2 35.532	0 35.05	25.312	Sid. T. 18 25 31.58 + 0 34.33 — 6 31.89
	Weisse XXI, 628 .	0.0	8.5	. .	8 8.42	1 39.990			Δ ρ — .02 — .38
	Circe	. .	32.1	40.6	8 32.22	4 34.982			p — .16 + 3.07
	Weisse XXI, 623 .	52.2	0.5	9.0	14 0.57	2 35.781	0 34.66	25.331	
	Circe	26.9	35.2	43.6	14 35.23	4 35.250			
	Weisse XXI, 623 .	33.2	. .	49.8	16 41.50	2 35.975	0 34.53	25.407	
	Circe	7.6	16.1	24.4	17 16.03	4 35.520			
	Weisse XXI, 623 .	20.4	28.5	37.2	20 28.70	2 36.252	0 34.27	25.100	
	Circe	54.7	3.0	11.2	21 2.97	4 35.490			
	Weisse XXI, 623 .	19.5	27.7	36.3	23 27.83	2 36.321	0 34.50	25.561	
	Circe	54.0	2.3	10.7	24 2.33	4 36.020			
	Weisse XXI, 623 .	41.4	49.5	58.0	25 49.63	2 36.500	0 34.27	25.501	
	Circe	15.7	23.7	32.3	26 23.90	4 36.139			
	Weisse XXI, 623 .	36.1	44.4	52.6	30 44.37	2 36.562	0 34.33	25.452	
	Circe	10.4	18.4	27.3	31 18.70	4 36.152			
	Weisse XXI, 623 .	5.4	13.6	22.1	33 13.70	2 36.825	0 34.06	25.589	
	Circe	39.5	47.6	56.2	33 47.76	4 36.552			
	Weisse XXI, 623 .	20.4	28.6	37.1	36 28.70	2 36.855	0 33.93	25.705	
	Circe	54.2	2.5	11.2	37 2.63	4 36.698			
	Weisse XXI, 623 .	42.2	50.4	59.0	38 50.53	2 37.010	0 33.84	25.752	
	Circe	16.1	24.3	32.7	39 24.37	4 36.900			
	Weisse XXI, 623 .	36.2	44.3	52.8	42 44.43	2 36.990	0 33.70	25.882	
	Circe	9.7	18.2	26.5	43 18.13	4 37.010			
	Weisse XXI, 623 .	3.0	11.2	19.5	45 11.23	2 37.270	0 33.84	25.971	
	Circe	36.8	44.9	53.5	45 45.07	4 37.379			
	Weisse XXI, 623 .	23.2	31.4	39.9	47 31.50	2 37.430	+0 33.60	— 25.747	
	Circe	56.8	5.0	13.5	18 48 5.10	4 37.315			
Aug. 12	Circe	46.4	54.6	2.8	18 33 54.60	5 40.950	—0 15.07	— 46.162	m. s. Corr. Chron. — 0 36.77
	Weisse XXI, 623 .	. .	9.6	18.0	34 9.67	2 37.658			α δ
H.									h. m. s. ° ′ ″
	Circe	40.3	48.7	57.0	36 48.67	5 41.115	0 15.06	46.185	Weisse XXI, 623, 21 27 17.81 — 8 48 25.63
	Weisse XXI, 623 .	. .	3.6	12.2	37 3.73	2 37.800			
									Circe—Weisse XXI, 623,
	Circe	53.1	1.1	9.8	41 1.33	5 41.348	0 15.30	46.286	Δ α Δ δ
	Weisse XXI, 623 .	. .	16.5	25.1	41 16.63	2 37.932			h. m. s. m. s. ′ ″
									Sid. T. 18 41 47.63 — 0 15.33 —11 49.84
	Circe	19.7	27.9	36.2	44 27.93	5 41.458	0 15.47	46.378	Δ ρ — .02 — .63
	Weisse XXI, 623 .	. .	43.2	52.0	44 43.40	2 37.950			p — .15 + 3.10
	Circe	31.0	39.1	47.7	47 39.27	5 41.470	0 15.53	46.398	
	Weisse XXI, 623 .	. .	54.7	3.2	47 54.80	2 37.942			
	Circe	26.2	34.6	43.1	50 34.63	5 41.620	—0 15.57	— 46.292	
	Weisse XXI, 623 .	. .	50.1	58.6	18 50 50.20	2 38.198			
Aug. 14	Weisse XXI, 543 .	23.0	31.5	39.9	18 7 31.47	5 39.913	+1 5.76	+ 36.276	
	Circe	28.7	37.2	45.8	8 37.23	3 33.722			
F.									
	Weisse XXI, 543 .	3.1	11.6	19.9	10 11.53	5 39.993	+1 5.70	+ 36.108	
	Circe	. .	. .	25.6	18 11 17.23	3 33.970			

(Continued.)

CIRCE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 14	Weisse XXI, 543 .	35.3	43.4	52.2	18 12 43.63	5 40.242	+1 5.50	+ 35.919	Corr. Chron. — 0 26.15
	Circe	40.6	49.2	57.6	13 49.13	3 34.408			α δ
F.									h. m. s. ° ′ ″
	Weisse XXI, 543 .	43.9	52.6	0.9	15 52.47	5 40.292	1 5.30	35.877	Weisse XXI, 543, 21 24 19.06 — 9 20 39.72
	Circe	49.2	57.8	6.3	16 57.77	3 34.500			Circe—Weisse XXI, 543,
	Weisse XXI, 543 .	10.2	18.5	27.0	18 18.57	5 40.389	1 5.33	35.884	Δ α Δ δ
	Circe	15.3	23.8	32.6	19 23.90	3 34.590			h. m. s. m. s. ′ ″
									Sid. T. 18 23 5.10 + 1 5.24 + 9 11.76
	Weisse XXI, 543 .	26.4	34.9	43.5	20 34.93	5 40.592	1 5.57	36.017	Δ ρ + .02 + .53
	Circe	31.8	. .	49.2	21 49.50	3 34.660			ρ — .16 + 3.16
	Weisse XXI, 543 .	34.3	42.5	51.0	23 42.60	5 40.733	1 5.07	36.053	
	Circe	39.3	47.6	56.1	24 47.67	3 34.765			
	Weisse XXI, 543 .	59.2	7.4	15.9	26 7.50	5 40.730	1 5.17	35.764	
	Circe	4.2	12.7	21.1	27 12.67	3 35.051			
	Weisse XXI, 543 .	36.7	44.9	53.8	28 45.13	5 40.921	1 5.10	36.092	
	Circe	41.9	50.2	58.6	29 50.23	3 34.914			
	Weisse XXI, 543 .	36.8	45.2	53.7	31 45.23	5 41.040	1 5.04	35.939	
	Circe	41.8	50.3	58.7	32 50.27	3 35.186			
	Weisse XXI, 543 .	34.8	43.3	52.2	36 43.43	5 41.272	1 4.60	35.817	
	Circe	39.3	48.0	56.8	37 48.03	3 35.540			
	Weisse XXI, 543 .	47.2	55.5	4.3	38 55.67	5 41.312	+1 4.70	+ 35.955	
	Circe	51.8	0.3	8.9	18 40 0.37	3 35.442			
Aug. 15	Weisse XXI, 543 .	2.3	14.6	26.8	18 42 14.57	4 34.120	+0 15.06	+ 15.042	Corr. Chron. — 0 35.98
	Circe	17.4	29.6	41.9	42 29.63	3 32.155			α δ
H.									h. m. s. ° ′ ″
	Weisse XXI, 543 .	50.7	3.0	15.2	45 2.97	4 34.170	0 14.80	15.303	Weisse XXI, 543, 21 24 19.07 — 9 20 39.66
	Circe	5.6	17.8	29.9	45 17.77	3 31.944			Circe—Weisse XXI, 543,
	Weisse XXI, 543 .	48.4	0.6	12.9	49 0.63	4 34.293	0 14.84	15.240	Δ α Δ δ
	Circe	3.2	15.5	27.7	49 15.47	3 32.130			h. m. s. m. s. ′ ″
									Sid. T. 18 56 27.37 + 0 14.46 + 3 48.61
	Weisse XXI, 543 .	27.7	39.9	52.1	51 39.90	4 34.338	0 14.63	14.985	Δ ρ + .01 + .14
	Circe	42.4	54.4	6.8	51 54.53	3 32.430			ρ — .13 + 3.14
	Weisse XXI, 543 .	3.4	15.7	27.9	54 15.67	4 34.428	0 14.56	14.845	
	Circe	18.0	30.4	42.3	54 30.23	3 32.660			
	Weisse XXI, 543 .	35.5	47.8	0.0	58 47.77	4 34.530	0 14.23	14.927	
	Circe	49.7	2.1	14.2	18 58 2.00	3 32.680			
	Weisse XXI, 543 .	50.5	2.9	15.2	19 2 2.87	4 34.493	0 14.23	14.630	
	Circe	5.0	17.1	29.2	2 17.10	3 32.940			
	Weisse XXI, 543 .	21.4	33.9	46.1	5 33.80	4 34.740	0 14.17	14.729	
	Circe	35.8	48.0	0.1	5 47.97	3 33.088			
	Weisse XXI, 543 .	37.5	49.9	2.1	8 49.83	4 34.821	0 14.10	14.682	
	Circe	51.7	4.1	16.0	9 3.93	3 33.206			
	Weisse XXI, 543 .	27.7	39.8	52.1	11 39.87	4 35.000	+0 13.96	+ 14.671	
	Circe	41.8	53.8	5.9	19 11 53.83	3 33.406			
Aug. 16	Weisse XXI, 506 .	46.9	55.2	3.6	18 18 55.23	2 43.249	+0 55.90	— 39.221	
	Circe	. .	50.9	59.7	19 51.13	5 39.600			
F.	Weisse XXI, 543 .	16.5	24.7	33.1	20 24.77	5 33.935	—0 33.64	5.665	
	Weisse XXI, 506 .	41.9	50.3	58.8	24 50.33	3 30.718	+0 55.77	39.099	
	Circe	37.6	46.3	54.4	25 46.10	5 39.732			
	Weisse XXI, 543 .	11.5	19.6	28.2	26 19.77	5 34.272	—0 33.67	5.460	
	Weisse XXI, 506 .	18.4	26.8	35.1	30 26.77	3 30.919	+0 55.80	39.604	
	Circe	14.3	22.5	30.9	31 22.57	5 40.438			
	Weisse XXI, 543 .	47.8	56.2	4.6	18 31 56.20	5 34.680	—0 33.63	— 5.758	

(Continued.)

CIRCE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Aug. 16	Weisse XXI, 506 .	16.5	24.8	33.4	18 35 24.90	3 31.073	+0 55.73	— 39.473
	Circe	12.6	20.5	28.8	36 20.63	5 40.461		
F.	Weisse XXI, 543 .	46.1	54.5	2.7	36 54.43	5 34.820	—0 33.80	5.641
	Weisse XXI, 506 .	1.3	9.4	17.9	40 9.53	3 31.162	+0 55.27	39.675
	Circe	56.3	4.8	13.3	41 4.80	5 40.752		
	Weisse XXI, 543 .	30.4	38.7	47.1	41 38.73	5 34.980	—0 33.93	5.772
	Weisse XXI, 506 .	53.2	1.8	10.2	45 1.73	3 31.375	+0 55.34	39.798
	Circe	48.5	57.3	5.4	45 57.07	5 41.088		
	Weisse XXI, 543 .	22.6	31.1	29.8	46 31.17	5 34.949	—0 34.10	6.139
	Weisse XXI, 506 .	15.7	23.9	32.5	50 24.03	3 31.969	+0 55.20	39.509
	Circe	11.1	19.1	27.5	51 19.23	5 41.393		
	Weisse XXI, 543 .	45.2	53.5	2.4	18 51 53.70	5 35.420	—0 34.47	— 5.973

RESULTS.

Corr. Chron. — 0 m. 35.63 s.

	α h. m. s.	δ ° ′ ″
Weisse XXI, 506,	21 22 49.53	— 9 12 1.20
Weisse XXI, 543,	21 24 19.07	— 9 20 39.58

Circe—Weisse XXI, 506,

		Δ α m. s.	Δ δ ′ ″
Sid. T.	18 35 21.73	+ 0 55.57	—10 5.57
	Δ ρ	— .02	— .55
	p	— .15	+ 3.07

Circe—Weisse XXI, 543,

Sid. T.	18 35 21.73	— 0 33.89	— 1 28.53
	Δ ρ	.00	— .08
	p	— .15	+ 3.08

URANIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 15		10.7	. .	35.2					m. s.
	Weisse XXI, 1087 .	14.6	23.2	31.6	19 59 23.06	3 42.331	+3 10.62	+11.961	Corr. Chron. — 0 35.10
H.		21.3	. .	46.0					α δ
	Urania	25.2	33.7	42.2	20 2 33.68	2 43.155			h. m. s. ° ′ ″
		42.0	. .	6.6					Weisse XXI, 1087, 21 47 5.23 —11 59 30.52
	Weisse XXI, 1087 .	46.0	54.3	3.0	3 54.38	3 42.377	3 10.52	11.802	Urania—Weisse XXI, 1087,
		52.4	. .	17.2					Δ α Δ δ
	Urania	56 6	4.9	13.4	7 4.90	2 43.360			h. m. s. m. s. ′ ″
		16.8	. .	41.3					Sid. T. 20 11 24.74 + 3 10.34 + 3 1.72
	Weisse XXI, 1087 .	20.8	29.1	37.5	8 29.10	3 42.535	3 10.42	11.883	Δ ρ .00 + .14
		27.1	. .	51.8					ρ — .16 + 5.40
	Urania	31.1	39.6	48.0	11 39.52	2 43.437			
		43.0	. .	7.8					
	Weisse XXI, 1087 .	47.0	55.3	4.0	13 55.42	3 42.679	3 10.16	11.834	
		53.2	. .	17.9					
	Urania	57.2	5.6	14.0	17 5.58	2 43.630			
		13.1	. .	37.8					
	Weisse XXI, 1087 .	17.0	25.5	34.1	18 25.50	3 42.733	+3 10.00	+ 11.762	
		23.0	. .	47.9					
	Urania	27.1	35.4	44.1	20 21 35.50	2 43.756			
Aug. 19	Urania	41.0	49.3	58.1	18 28 49.47	5 39.225	—0 38.56	— 46.085	m. s.
	Weisse XXI, 1087 .	19.5	28.0	36.6	29 28.03	2 36.010			Corr. Chron. — 0 27.65
H.									α δ
	Urania	3.6	12.2	20.9	31 12.23	5 39.552	0 38.64	46.304	h. m. s. ° ′ ″
	Weisse XXI, 1087 .	42.3	50.9	59.4	31 50.87	2 36.118			Weisse XXI, 1087, 21 47 5.26 —11 59 30.40
									Urania—Weisse XXI, 1087,
	Urania	9.1	17.4	26.0	33 17.50	5 39.650	0 38.67	46.295	Δ α Δ δ
	Weisse XXI, 1087 .	47.7	56.1	4.7	33 56.17	2 36.225			h. m. s. m. s. ′ ″
	Urania	9.3	17.3	26.2	35 17.77	5 39.802	0 38.96	46.314	Sid. T. 18 47 16.29 — 0 39.27 —11 52.04
	Weisse XXI, 1087 .	48.2	56.8	5.2	35 56.73	2 36.358			Δ ρ — .04 — .53
									ρ — .27 + 5.19
	Urania	17.2	25.7	34.3	41 25.73	5 40.014	0 39.10	46.216	
	Weisse XXI, 1087 .	56.4	4.8	13.3	42 4.83	2 36.668			
	Urania	15.8	24.1	32.7	43 24.20	5 40.288	0 39.20	46.395	
	Weisse XXI, 1087 .	55.0	3.3	11.9	44 3.40	2 36.763			
	Urania	36.0	44.3	52.8	45 44.37	5 40.375	0 39.06	46.379	
	Weisse XXI, 1087 .	15.0	23.3	32.0	46 23.43	2 36.866			
	Urania	47.0	55.6	4.0	47 55.53	5 40.550	0 39.10	46.462	
	Weisse XXI, 1087 .	26.2	34.5	43.2	48 34.63	2 36.958			
	Urania	13.7	22.2	30.8	51 22.23	5 40.790	0 39.37	46.506	
	Weisse XXI, 1087 .	53.3	1.4	10.1	52 1.60	2 37.154			
	Urania	32.0	40.3	48.7	53 40.33	5 40.814	0 39.50	46.474	
	Weisse XXI, 1087 .	11.4	19.8	28.3	54 19.83	2 37.210			
	Urania	38.9	47.1	55.7	55 47.23	5 41.049	0 39.57	46.498	
	Weisse XXI, 1087 .	18.4	26.8	35.2	56 26.80	2 37.421			
	Urania	55.8	4.2	12.6	58 4.20	5 41.110	0 39.73	46.650	
	Weisse XXI, 1087 .	35.5	43.9	52.4	18 58 43.93	2 37.330			
	Urania	36.9	45.1	53.8	19 0 45.27	5 41.146	0 39.93	46.527	
	Weisse XXI, 1087 .	16.8	25.0	33.8	1 25.20	2 37.489			
	Urania	12.9	21.2	29.6	3 21.23	5 41.304	0 39.84	46.684	
	Weisse XXI, 1087 .	52.8	0.8	9.6	4 1.07	2 37.490			
	Urania	43.6	52.1	0.7	5 52.13	5 41.390	—0 39.90	— 46.580	
	Weisse XXI, 1087 .	23.7	32.0	40.4	19 6 32.03	2 37.680			

URANIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865. Aug. 23		58.9	. .	23.2					Corr. Chron. — 0 19.13
	Urania	2.8	11.2	19.3	18 30 11.08	4 46.686			α δ
F.		17.1	. .	41.6					h. m. s. ° ′ ″
	Weisse XXI, 1002	21.6	29.5	37.8	30 29.52	1 39.507	—0 18.44	— 50.172	Weisse XXI, 1002, 21 42 52.48 —12 13 39.03
		58.7							Urania—Weisse XXI, 1002,
	Urania	2.7	11.3	19.1	32 11.03	4 46.856			Δ α Δ δ
				41.7					h. m. s. m. s. ′ ″
	Weisse XXI, 1002 .	. .	29.8	37.8	32 29.63	1 39.770	0 18.60	50.079	Sid. T. 18 50 6.95 — 0 19.31 —12 49.15
									Δ ρ — .03 — .86
		51.5	. .	16.3					ρ — .26 + 5.17
	Urania	55.7	3.8	12.5	37 3.96	4 47.060			
				34.8					
	Weisse XXI, 1002 .	. .	22.6	31.2	37 22.63	1 40.130	0 18.67	49.923	
		18.3	. .	42.6					
	Urania	22.3	30.3	38.8	39 30.46	4 47.401			
				1.6					
	Weisse XXI, 1002 .	. .	48.9	57.6	39 49.26	1 40.340	0 18.80	50.054	
		49.7	. .	14.3					
	Urania	53.6	2.0	10.5	42 2.02	4 47.434			
				33.3					
	Weisse XXI, 1002 .	. .	20.7	29.3	42 20.85	1 40.441	0 18.83	49.986	
		36.3	. .	0.6					
	Urania	39.9	48.2	56.6	44 48.32	5 39.448			
				19.5					
	Weisse XXI, 1002 .	. .	6.8	15.9	45 7.25	2 32.439	0 18.93	49.879	
		4.8	. .	29.4					
	Urania	8.7	16.9	25.6	47 16.90	5 39.750			
				48.9					
	Weisse XXI, 1002 .	. .	36.2	45.0	47 36.30	2 32.306	0 19.40	50.314	
		29.9	. .	54.6					
	Urania	33.9	42.1	50.7	49 42.24	5 39.770			
				13.8					
	Weisse XXI, 1002 .	. .	1.6	9.8	50 1.50	2 32.613	0 19.26	50.027	
		34.8	. .	59.3					
	Urania	38.8	47.1	55.3	52 47.06	5 40.088			
				18.8					
	Weisse XXI, 1002 .	. .	6.4	15.0	53 6.56	2 32.742	0 19.50	50.216	
		53.9	. .	18.7					
	Urania	57.8	5.9	14.8	55 6.22	5 40.059			
				38.1					
	Weisse XXI, 1002 .	. .	25.5	34.3	18 55 25.72	2 32.793	0 19.50	50.136	
		0.6	. .	25.0					
	Urania	4.8	13.1	21.0	19 5 12.90	5 40.593			
				45.2					
	Weisse XXI, 1002 .	. .	32.8	41.4	5 33.01	2 33.209	0 20.11	50.254	
		30.3	. .	54.6					
	Urania	34.4	42.5	50.8	7 42.52	5 40.728			
				14.9					
	Weisse XXI, 1002 .	. .	2.3	11.2	8 2.64	2 33.230	0 20.12	50.368	
		52.5	. .	17.0					
	Urania	56.2	4.9	13.3	10 4.78	5 40.885			
				37.1					
	Weisse XXI, 1002 .	. .	24.8	33.5	10 24.89	2 33.460	0 20.11	50.295	
		58.6	. .	23.7					
	Urania	2.8	11.1	19.5	12 11.14	5 40.970			
				43.4					
	Weisse XXI, 1002 .	. .	31.4	39.8	19 12 31.25	2 33.458	—0 20.11	— 50.382	
Aug. 24		7.2	. .	31.9					
	Weisse XXI, 933 .	11.2	19.6	28.2	19 44 19.62	2 37.388	+2 4.84	— 46.078	
H.		12.0	. .	37.0					
	Urania	16.0	24.4	32.9	19 46 24.46	5 40.596			

(Continued.)

URANIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865.		34.0	. .	58.7					Corr. Chron. — 0 m. 17.17 s.
Aug. 24	Weisse XXI, 933 .	37.8	46.3	55.0	19 47 46.36	2 37.408	+2 4.86	— 46.247	α δ
H.		38.9	. .	3.6					h. m. s. ° ′ ″
	Urania	42.8	51.0	59.8	49 51.22	5 40.785			Weisse XXI, 933, 21 39 29.05 —12 18 26.37
		9.7	. .	34.4					Urania—Weisse XXI, 933,
	Weisse XXI, 933 .	13.9	22.2	30.8	51 22.20	2 37.434	2 4.44	46.309	Δ α Δ δ
		14.2	. .	39.0					h. m. s. m. s. ′ ″
	Urania	18.2	26.6	35.2	53 26.64	5 40.873			Sid. T. 20 2 38.05 + 2 4.18 —11 51.46
		37.6	. .	2.3					Δ ρ — .01 — .57
	Weisse XXI, 933 .	41.5	49.9	58.5	54 49.96	2 37.444	2 4.52	46.433	p — .16 + 5.45
		42.1	. .	6.9					
	Urania	46.0	54.4	3.0	19 56 54.43	5 41.007			
		58.0	. .	22.8					
	Weisse XXI, 933 .	1.8	10.2	19.0	20 0 10.36	2 37.559	2 4.28	46.382	
		2.3	. .	27.0					
	Urania	6.3	14.5	23.1	1 14.64	5 41.071			
		39.3	. .	4.0					
	Weisse XXI, 933 .	43.3	51.7	0.2	2 51.70	2 37.635	2 4.02	46.355	
		43.3	. .	8.2					
	Urania	47.2	55.7	4.2	4 55.72	5 41.120			
		8.3	. .	33.1					
	Weisse XXI, 933 .	12.2	20.7	29.2	6 20.70	2 37.690	2 3.98	46.466	
		12.2	. .	37.0					
	Urania	16.2	24.7	33.3	8 24.68	5 41.286			
		26.3	. .	51.0					
	Weisse XXI, 933 .	30.3	38.8	47.2	10 38.72	2 37.836	2 3.86	46.451	
		30.2	. .	55.0					
	Urania	34.2	42.4	51.1	12 42.58	5 41.417			
		45.1	. .	10.1					
	Weisse XXI, 933 .	49.1	57.5	6.1	13 57.58	2 37.960	2 3.64	46.518	
		48.8	. .	13.6					
	Urania	52.8	1.1	9.8	16 1.22	5 41.608			
		1.0	. .	25.6					
	Weisse XXI, 933 .	4.9	13.1	21.9	17 13.30	2 37.980	+2 3.36	— 46.630	
		4.3	. .	29.0					
	Urania	8.3	16.7	25.0	20 19 16.66	5 41.740			
		23.7	. .	48.3					Corr. Chron. — 0 m. 16.04 s.
Aug. 25	Weisse XXI, 933 .	27.6	35.8	44.5	18 56 35.98	1 38.132	+1 9.38	— 60.164	α δ
		33.1	. .	57.8					h. m. s. ° ′ ″
F.	Urania	36.8	45.4	53.7	57 45.36	5 38.295			Weisse XXI, 933, 21 39 29.06 —12 18 26.32
		55.6	. .	20.3					Urania—Weisse XXI, 933,
	Weisse XXI, 933 .	59.8	7.8	16.5	18 59 8.00	1 38.248	1 9.44	60.092	Δ α Δ δ
		4.8	. .	29.8					h. m. s. m. s. ′ ″
	Urania	9.1	17.5	26.0	19 0 17.44	5 38.339			Sid. T. 19 9 19.49 + 1 9.02 —15 23.67
		22.5	. .	47.6					Δ ρ — .03 — .90
	Weisse XXI, 933 .	26.5	35.0	43.6	2 35.04	1 38.332	1 9.40	60.230	p — .23 + 5.30
		32.2	. .	56.7					
	Urania	36.0	44.5	52.8	3 44.44	5 38.561			
		44.6	. .	9.3					
	Weisse XXI, 933 .	48.6	57.4	5.3	4 57.04	1 38.452	1 9.16	60.130	
		53.8	. .	18.6					
	Urania	57.6	6.2	14.8	6 6.20	5 38.581			
		3.9	. .	28.7					
	Weisse XXI, 933 .	7.9	16.3	24.9	7 16.34	1 38.483	1 9.12	60.245	
		13.2	. .	37.7					
	Urania	17.1	25.4	33.9	8 25.46	5 38.727			
		44.2	. .	8.5					
	Weisse XXI, 933 .	48.2	56.4	4.8	9 56.42	1 38.550	+1 9.02	— 60.364	
		53.2	. .	17.8					
	Urania	57.1	5.4	13.7	19 11 5.44	5 38.913			

(Continued)

URANIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. Aug. 25		0.7	. .	25.2					
F.	Weisse XXI, 933 .	4.5	12.8	21.3	19 12 12.90	1 38.726	+1 8.84	— 60.211	
		9.4	. .	34.1					
	Urania	13.3	21.5	30.4	13 21.74	5 38.936			
		43.8	. .	8.3					
	Weisse XXI, 933 .	47.6	56.2	4.5	14 56.08	1 38.791	+1 8.62	— 60.389	
		52.4	. .	17.0					
	Urania	56.3	4.6	13.2	16 4.70	5 39.179			
		2.1	. .	26.7					
	Weisse XXI, 933 .	5.8	14.5	22.6	17 14.34	1 38.922	—1 8.68	+ 60.149	
		10.6	. .	35.3					
	Urania	14.7	22.9	31.6	18 23.02	5 39.070			
		20.7	. .	45.2					
	Weisse XXI, 933 .	24.7	33.2	41.8	19 33.12	1 39.013	+1 8.40	— 60.253	
		29.4	. .	53.7					
	Urania	33.1	41.5	49.9	19 20 41.52	5 39.265			

DANÆ.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865. Aug. 23		31.9	. .	57.5					Corr. Chron. — 0 18.96
	Danæ	36.1	44.6	53.6	20 21 44.74	2 44.370			α δ
F.		4.4	. .	30.4					h. m. s. ° ′ ″
	Oeltzen S. 21550 .	8.7	17.4	26.2	20 22 17.42	4 42.141	—0 32.68	+ 23.633	Oeltzen S. 21550, 21 32 27.96 —20 49 47.56
		31.6	. .	57.4					Danæ—Oeltzen S. 21550,
	Danæ	35.6	44.3	53.4	21 23 44.46	2 44.352			Δ α Δ δ
		7.3	. .	32.8					h. m. s. m. s. ′ ″
	Oeltzen S. 21550 .	11.4	19.8	29.0	24 20.06	4 43.165	0 35.60	24.675	Sid. T. 21 17 42.41 — 0 35.35 + 6 16.11
		8.8	. .	34.4					Δ ρ .00 + .40
	Danæ	12.7	21.2	30.3	26 21.48	2 44.419			p — .02 + 4.53
		44.2	. .	10.1					
	Oeltzen S. 21550 .	48.6	57.1	5.9	26 57.18	4 43.133	0 35.70	24.576	
		27.9	. .	53.8					
	Danæ	32.2	40.8	49.7	28 40.88	2 44.280			
		3.8	. .	29.8					
	Oeltzen S. 21550 .	7.9	16.5	25.6	29 16.72	4 43.212	0 35.84	24.794	
		22.7	. .	47.8					
	Danæ	26.7	35.2	44.2	32 35.32	2 44.009			
		58.4	. .	24.2					
	Oeltzen S. 21550 .	2.4	11.5	20.1	33 11.32	4 43.059	0 36.00	24.912	
		48.7	. .	14.3					
	Danæ	52.6	1.5	10.2	35 1.46	2 44.350			
		24.7	. .	50.6					
	Oeltzen S. 21550 .	28.9	37.7	46.8	21 35 37.74	4 43.029	—0 36.28	+ 24.541	
		3.2	. .	28.9					m. s.
Aug. 24		7.2	15.9	24.7					Corr. Chron. — 0 17.20
	Danæ	38.8	. .	4.8	20 33 15.98	2 36.240			α δ
H.		42.9	51.7	0.9					h. m. s. ° ′ ″
	Oeltzen S. 21550 .	24.7	. .	50.0	34 51.82	5 33.922	—1 35.84	+ 40.552	Oeltzen S. 21550, 21 32 27.95 —20 49 47.58
		28.8	37.4	46.2					Danæ—Oeltzen S. 21550,
	Danæ	0.6	. .	26.3	36 37.42	2 36.268			Δ α Δ δ
		4.7	13.4	22.3					h. m. s. m. s. ′ ″
	Oeltzen S. 21550 .	38.6	. .	4.7	38 13.46	5 34.050	1 36.04	40.652	Sid T. 20 50 8.50 — 1 36.59 +10 26.48
		43.0	51.8	0.8					Δ ρ + .01 + .69
	Danæ	14.8	. .	40.9	41 51.78	2 36.303			p — .06 + 4.50
		19.0	27.9	36.8					
	Oeltzen S. 21550 .	50.4	. .	16.2	43 27.88	5 34.186	1 36.10	40.753	
		54.6	3.3	12.2					
	Danæ	26.5	. .	52.6	45 3.34	2 36.404			
		30.8	39.8	48.6					
	Oeltzen S. 21550 .	59.2	. .	25.1	46 39.66	5 34.236	1 36.32	40.702	
		3.5	12.3	21.1					
	Danæ	35.9	. .	1.9	48 12.24	2 36.338			
		40.1	48.8	57.6					
	Oeltzen S. 21550 .	59.2	. .	25.0	49 48.86	5 34.465	1 36.62	40.997	
		3.2	12.2	21.1					
	Danæ	36.0	. .	1.8	53 12.14	2 36.338			
		40.0	48.7	57.8					
	Oeltzen S. 21550 .	5.6	. .	31.1	54 48.86	5 34.408	1 36.72	40.940	
		9.6	18.3	27.3					
	Danæ	42.1	. .	8.2	56 18.38	2 36.320			
		46.3	55.2	4.0					
	Oeltzen S. 21550 .	2.0	. .	27.7	20 57 55.16	5 34.370	1 36.78	40.920	
		6.0	15.0	23.9					
	Danæ	39.1	. .	4.9	21 0 14.92	2 36 486			
		43.1	52.0	0.8					
	Oeltzen S. 21550 .	2.0	. .	27.8	1 51.98	5 34.486	1 37.06	40.870	
		6.1	15.0	24.0					
	Danæ	39.1	. .	5.1	3 14.98	2 36.510			
		43.4	52.0	1.0					
	Oeltzen S. 21550 .				21 4 52.12	5 31.622	—1 37.14	+ 40.982	

(Continued.)

DANÆ.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.	
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.		
Aug. 24		2.8	. .	28.8						
	Danæ	7.1	16.0	24.6	21 6 15.86	2 36.374				
H.		40.1	. .	6.0						
	Oeltzen S. 21550 .	44.3	53.1	2.0	21 7 53.10	5 34.586	—1 37.24	+ 41.082		
Aug. 25	B. A. C. 7490 . .	7.3	15.8	24.7	19 58 15.93	2 45.095	+2 32.34	+ 22.505	m. s. Corr. Chron. — 0 15.42	
	B. A. C. 7491 . .	10.3	18.9	27.6	19 58 18.93	5 41.459	α	δ		
F.	Danæ	39.6	48.4	56.8	20 0 48.27	1 39.721	h. m. s.	° ′ ″		
	Oeltzen S. 21550 .	15.2	24.3	33.3	3 24.27	5 36.875	B. A. C. 7490,	21 27 19.84	—20 40 37.29	
		0.5	. .	26.2			Danæ—B. A. C. 7490,			
	B. A. C. 7490 . .	4.8	13.1	22.2	6 13.36	3 32.782	2 32.00	22.748	Δ α Δ δ	
		32.2	. .	58.2			h. m. s.	m. s. ′ ″		
	Danæ	36.6	45.5	54.3	8 45.36	1 39.950	Sid. T. 20 22 5.41	+ 2 31.38	+ 5 52.39	
		55.9	. .	21.7			Δ ρ	.00	+ .41	
	B. A. C. 7490 . .	0.4	8.8	17.7	10 8.90	3 32.915	2 31.88	23.000	p — .09	+ 4.75
		27.7	. .	53.5						
	Danæ	32.4	40.7	49.6	12 40.78	1 39.831				
		42.8	. .	8.8						
	B. A. C. 7490 . .	46.8	55.7	4.8	13 55.78	2 45.732	2 31.60	23.001		
				40.4						
	Danæ	18.2	27.4	36.5	16 27.38	1 39.862				
		46.9	. .	12.6						
	B. A. C. 7490 . .	51.2	59.6	8.6	17 59.78	3 33.009	2 31.53	23.139		
				43.9						
	Danæ	. .	31.3	40.2	20 31.31	1 39.786				
		43.5	. .	8.9						
	B. A. C. 7490 . .	47.5	55.8	4.8	22 56.10	3 33.083	2 31.18	22.990		
		14.3	. .	40.2						
	Danæ	18.4	27.3	36.2	25 27.28	1 40.009				
		24.5	. .	50.1						
	B. A. C. 7490 . .	28.6	37.2	46.2	26 37.32	2 45.950	2 31.02	22.896		
		55.5	. .	21.1						
	Danæ	59.6	8.2	17.3	29 8.34	1 40.185				
		8.9	. .	34.4						
	B. A. C. 7490 . .	12.7	21.6	30.4	30 21.60	3 33.279	2 30.82	23.106		
		39.5	. .	5.3						
	Danæ	43.7	52.5	1.1	32 52.42	1 40.089				
		48.6	. .	14.3						
	B. A. C. 7490 . .	52.7	1.4	10.4	34 1.48	2 45.985	2 30.82	23.047		
		19.3	. .	45.5						
	Danæ	23.2	32.2	41.3	36 32.30	1 40.069				
		31.5	. .	57.0						
	B. A. C. 7490 . .	35.5	44.3	52.9	37 44.24	3 33.292	+2 30.62	+ 23.326		
				27.5						
	Danæ	6.3	14.7	23.7	20 40 14.86	1 39.882				
		16.3	. .	42.2						
Aug. 26	B. A. C. 7490 . .	20.4	29.2	38.2	20 23 29.26	4 43.160	+1 30.74	+ 40.590	m. s. Corr. Chron. — 0 13.90	
		47.2	. .	12.9			α	δ		
H.	Danæ	51.2	59.9	8.8	25 0.00	1 45.563	h. m. s.	° ′ ″		
		47.5	. .	13.3			B. A. C. 7490,	21 27 19.84	—20 40 37.29	
	B. A. C. 7490 . .	51.7	0.3	9.3	27 0.42	4 43.307	1 30.46	40.625	Danæ—B. A. C. 7490,	
		18.0	. .	43.7					Δ α Δ δ	
	Danæ	22.0	30.8	39.9	28 30.88	1 45.675	h. m. s.	m. s. ′ ″		
		40.4	. .	6.3			Sid. T. 20 40 11.17	+ 1 29.97	+10 25.45	
	B. A. C. 7490 . .	44.6	53.3	2.3	29 53.38	4 43.320	+1 30.46	+ 40.673	Δ ρ + .01	+ .69
		10.9	. .	36.7					p — .06	+ 4.77
	Danæ	15.0	23.8	32.8	20 31 23.84	1 45.640				

(Continued.)

DANÆ.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. Aug. 26 H.		44.6	. .	10.3					
	B. A. C. 7490 . .	48.7	57.5	6.4	20 33 57.50	4 43.394	+1 30.24	+ 40.777	
		15.0	. .	40.6					
	Danæ	18.8	27.7	36.6	35 27.74	1 45.610			
		39.0	. .	4.9					
	B. A. C. 7490 . .	43.1	52.0	1.0	36 52.00	4 43.425	1 30.04	40.702	
		9.1	. .	34.9					
	Danæ	13.2	22.0	31.0	38 22.04	1 45.716			
		39.4	. .	5.1					
	B. A. C. 7490 . .	43.5	52.3	1.2	39 52.30	4 43.480	1 29.94	40.693	
		9.3	. .	35.1					
	Danæ	13.5	22.2	31.1	41 22.24	1 45.580			
		46.5	. .	12.3					
	B. A. C. 7490 . .	50.7	59.4	8.3	44 59.44	4 43.564	1 29.64	40.901	
		16.2	. .	42.0					
	Danæ	20.2	29.0	38.0	46 29.08	1 45.656			
		47.0	. .	12.9					
	B. A. C. 7490 . .	51.2	0.0	8.8	47 59.98	4 43.605	1 29.52	40.904	
		16.7	. .	42.3					
	Danæ	20.6	29.5	38.4	49 29.50	1 45.694			
		51.0	. .	16.8					
	B. A. C. 7490 . .	55.1	3.9	12.8	51 3.92	4 43.656	1 29.36	40.925	
		20.5	. .	46.1					
	Danæ	24.5	33.2	42.1	52 33.28	1 45.724			
		49.8	. .	15.6					
	B. A. C. 7490 . .	54.0	2.7	11.6	54 2.74	4 43.690	+1 29.34	+ 40.997	
		19.1	. .	45.0					
	Danæ	23.2	32.1	41.0	20 55 32.08	1 45.686			

ASTRÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865.		48.1	. .	12.4					Corr. Chron. — 0 7.81
Sept. 11	Weisse XXIII, 936	52.2	0.4	8.7	20 4 0.36	3 39.478	+1 34.16	— 29.898	α δ
F.		21.9	. .	47.6					h. m. s. ° ′ ″
	Astræa	26.1	34.2	42.8	5 34.52	5 39.291			Weisse XXIII, 936, 23 46 32.19 — 5 47 23.16
				12.2					
	Weisse XXIII, 978	51.5	0.1	8.2	5 59.84	1 35.640			Astræa—Weisse XXIII, 936,
		57.7	. .	21.5					Δ α Δ δ
	Weisse XXIII, 936	1.3	9.6	18.0	10 9.62	3 39.825	1 33.94	29.900	h. m. s. m. s. ′ ″
		31.4	. .	55.7					Sid. T. 20 29 2.59 + 1 33.42 — 7 42.50
	Astræa	35.4	43.5	51.8	11 43.56	5 39.640			Δ ρ — .02 — .43
									p — .16 + 2.92
		4.2	. .	27.9					
	Weisse XXIII, 936	8.1	16.3	24.3	17 16.16	3 40.163	1 33.76	30.002	
		37.8	. .	2.2					
	Astræa	41.6	49.8	58.2	18 49.92	5 40.080			
		28.6	. .	52.9					
	Weisse XXIII, 936	32.5	40.7	49.2	21 40.78	3 40.478	1 33.72	30.105	
		2.3	. .	26.8					
	Astræa	6.3	14.3	22.8	23 14.50	5 40.498			
		56.7	. .	21.8					
	Weisse XXIII, 936	0.4	8.7	17.3	27 8.98	3 40.885	1 33.32	30.170	
		30.2	. .	54.8					
	Astræa	34.0	42.2	50.3	28 42.30	5 40.970			
				20.6					
	Weisse XXIII, 978	0.2	8.6	16.8	29 8.52	1 37.070			
		42.3	. .	6.6					
	Weisse XXIII, 936	46.3	54.5	2.8	31 54.50	3 41.253	1 33.42	30.241	
		15.7	. .	40.4					
	Astræa . . .	19.6	27.7	36.2	34 27.92	5 41.409			
		36.8	. .	0.9					
	Weisse XXIII, 936	40.8	48.8	57.5	35 48.96	3 41.230	1 33.22	30.124	
		9.9	. .	34.5					
	Astræa	14.0	22.1	30.4	37 22.18	5 41.269			
		17.5	. .	41.6					
	Weisse XXIII, 936	21.2	29.5	38.1	39 29.58	3 41.443	1 32.96	30.211	
		50.3	. .	15.0					
	Astræa	54.1	2.5	10.8	41 2.54	5 41.569			
		12.9	. .	37.4					
	Weisse XXIII, 936	16.9	25.0	33.7	42 25.18	3 41.498	1 32.98	30.399	
		46.1	. .	10.5					
	Astræa	49.8	58.0	6.4	43 58.16	5 41.812			
		3.6	. .	27.5					
	Weisse XXIII, 936	7.5	15.6	24.0	45 15.64	3 41.649	+1 32.72	— 30.495	
		36.3							
	Astræa	40.3	48.2	56.8	46 48.36	5 42.059			
		3.3	. .	27.6					
	Weisse XXIII, 978	7.0	15.2	23.6	20 47 15.34	1 37.863			
		16.8	. .	41.2					m. s.
Sept. 14	Weisse XXIII, 895	20.7	29.0	37.4	21 26 29.02	4 46.395	+0 43.28	+ 36.497	Corr. Chron. — 0 9.75
H.		0.1	. .	24.3					α δ
	Astræa	4.1	12.3	20.7	27 12.30	2 35.760			h. m. s. ° ′ ″
									Weisse XXIII, 895, 23 44 53.04 — 6 25 18.84
		50.0	. .	14.4					
	Weisse XXIII, 895	54.0	2.3	10.8	29 2.30	4 46.504	0 43.28	36.487	Astræa—Weisse XXIII, 895,
		33.4	. .	57.7					Δ α Δ δ
	Astræa	37.3	45.6	53.9	29 45.58	2 35.879			h. m. s. m. s. ′ ″
									Sid. T. 21 32 34.28 + 0 43.09 + 9 18.38
		22.2	. .	46.7					Δ ρ + .01 + .37
	Weisse XXIII, 895	26.3	34.6	42.9	31 34.54	4 46.568	+0 43.10	+ 36.557	p — .12 + 3.11
		5.5	. .	29.8					
	Astræa	9.3	17.6	26.0	21 32 17.64	2 35.873			

(Continued.)

ASTRÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 14		59.4	. .	23.8					
	Weisse XXIII, 895	3.3	11.8	20.0	21 35 11.66	4 46.566	+0 42.88	+ 36.282	
H.		42.6	. .	6.6					
	Astræa	46.4	54.3	2.8	35 54.54	2 36.146			
		35.0	. .	59.2					
	Weisse XXIII, 895	39.0	47.2	55.6	37 47.20	4 46.659	+0 42.90	+ 36.213	
		17.9	. .	42.2					
	Astræa	21.8	30.0	38.6	21 38 30.10	2 36.308			
									m. s.
Sept. 15	Weisse XXIII, 862	52.5	0.6	9.3	21 18 0.80	2 38.690			Corr. Chron. — 0 8.60
	Astræa	59.5	7.0	15.6	20 7.37	4 32.972			α δ
F.	Weisse XXIII, 895	5.3	13.1	21.6	20 13.33	4 42.805	—0 5.96	+ 9.833	h. m. s. ° ′ ″
									Weisse XXIII, 895, 23 44 53.04 — 6 25 18.8
	Astræa	12.9	21.1	29.5	23 21.17	3 46.100			
	Weisse XXIII, 895	18.6	26.9	35.4	23 26.97	4 42.782	0 5.80	9.759	Astræa—Weisse XXIII, 895,
									Δ α Δ δ
	Astræa	5.8	14.1	22.2	25 14.03	3 46.348			h. m. s. m. s. ′ ″
	Weisse XXIII, 895	11.7	19.8	28.5	25 20.00	4 42.817	0 5.97	9.546	Sid. T. 21 29 57.64 — 0 6.18 + 2 25.45
									Δ ρ .00 + .10
	Astræa	40.5	48.5	56.9	26 48.63	3 46.543			ρ — .13 + 3.12
	Weisse XXIII, 895	46.3	54.7	3.2	26 54.73	4 42.883	0 6.10	9.417	
	Astræa	39.2	47.2	55.6	28 47.33	3 46.643			
	Weisse XXIII, 895	45.1	53.3	2.0	28 53.47	4 43.060	0 6.14	9.494	
	Astræa	59.6	7.9	16.7	31 8.07	3 46.806			
	Weisse XXIII, 895	5.8	14.3	22.6	31 14.23	4 42.965	0 6.16	9.236	
	Astræa	41.5	49.7	58.1	32 49.77	3 46.825			
	Weisse XXIII, 895	47.8	55.8	4.5	32 56.03	4 43.151	0 6.26	9.403	
	Astræa	46.9	55.1	3.5	35 55.17	3 46.422			
	Weisse XXIII, 895	53.3	1.7	10.1	36 1.70	4 42.833	0 6.53	9.488	
	Astræa	31.5	39.9	48.3	37 39.90	3 46.552			
	Weisse XXIII, 895	38.0	46.3	54.8	37 46.37	4 42.761	0 6.47	9.286	
	Astræa	2.7	11.1	19.2	39 11.00	3 46.642			
	Weisse XXIII, 895	9.1	17.4	25.8	21 39 17.43	4 42.931	—0 6.43	+ 9.366	
Sept. 16		42.2	. .	6.3					
	Astræa	46.1	54.0	2.2	21 10 54.16	4 33.560			m. s.
H.		37.3	. .	1.3					Corr. Chron. — 0 6.65
	Weisse XXIII, 895	41.1	49.2	57.6	11 49.30	2 42.425	—0 55.14	— 16.997	α δ
									h. m. s. ° ′ ″
		34.3	. .	58.4					Weisse XXIII, 895, 23 44 53.05 — 6 25 18.78
	Astræa	38.2	46.5	54.7	13 46.42	4 33.770			
		29.8	. .	53.6					Astræa—Weisse XXIII, 895,
	Weisse XXIII, 895	33.4	41.7	50.1	14 41.72	2 42.677	0 55.30	16.955	Δ α Δ δ
									h. m. s. m. s. ′ ″
		41.0	. .	5.3					Sid. T. 21 22 44.87 — 0 55.63 — 4 23.02
	Astræa	44.9	53.0	1.5	16 53.14	4 33.864			Δ ρ — .01 — .18
		36.5	. .	0.9					ρ — .13 + 3.12
	Weisse XXIII, 895	40.4	48.7	56.9	17 48.68	2 42.775	0 55.54	16.951	
		15.6	. .	39.9					
	Astræa	19.4	27.8	36.2	19 27.78	4 33.930			
		11.0	. .	35.3					
	Weisse XXIII, 895	15.1	23.4	31.6	20 23.28	2 42.774	0 55.50	17.018	
		35.3	. .	59.7					
	Astræa . . .	39.4	47.5	56.1	21 47.60	4 34.273			
		31.2	. .	55.3					
	Weisse XXIII, 895	35.0	43.2	51.7	22 43.28	2 42.848	0 55.68	17.287	
		58.3	. .	22.4					
	Astræa	2.1	10.2	18.8	24 10.36	4 34.267			
		54.1	. .	17.8					
	Weisse XXIII, 895	57.8	5.7	14.0	21 25 5.88	2 42.790	—0 55.52	— 17.339	

(Continued.)

ASTRÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 16		27.0	. .	51.2					
	Astræa	31.0	39.2	47.5	21 26 39.18	4 34.304			
H.		23.0	. .	46.9					
	Weisse XXIII, 895	26.7	34.9	43.3	27 34.96	2 42.998	—0 55.78	— 17.168	
		47.9	. .	11.9					
	Astræa	51.7	59.7	8.0	28 59.84	4 34.337			
		43.7	. .	7.4					
	Weisse XXIII, 895	47.4	55.6	3.9	29 55.60	2 43.040	0 55.76	17.159	
		23.0	. .	47.0					
	Astræa	26.8	35.0	43.2	31 35.00	4 34.625			
		18.7	. .	42.7					
	Weisse XXIII, 895	22.8	30.9	39.0	32 30.82	2 43.125	0 55.82	17.362	
		10.7	. .	34.8					
	Astræa	14.5	22.7	31.0	34 22.74	4 34.677			
		7.0	. .	30.9					
	Weisse XXIII, 895	10.8	19.0	27.2	21 35 18.98	2 43.280	—0 56.24	— 17.259	

EUPHROSYNE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 11	Oeltzen S. 492 . .	49.4	57.8	6.8	21 26 58.00	2 34.445	+0 54.97	— 3.916
	Oeltzen S. 499 . .	58.4	6.5	15.8	27 6.90	2 40.563		
F.	Euphrosyne . .	44.4	52.9	1.6	27 52.97	2 38.361		
	Oeltzen S. 492 . .	17.4	. .	35.3	31 26.35	2 34.948	0 55.32	3.644
	Oeltzen S. 499 . .	26.5	. .	44.8	31 35.65	2 40.909		
	Euphrosyne . .	12.8	21.8	30.4	32 21.67	2 38.592		
	Oeltzen S. 492 . .	3.1	. .	20.8	39 11.95	2 35.630	0 54.85	3.655
	Oeltzen S. 499 . .	12.4	. .	29.7	39 21.05	2 41.518		
	Euphrosyne . .	58.1	6.7	15.6	40 6.80	2 39.285		
	Oeltzen S. 492 . .	5.1	. .	22.9	42 14.00	2 35.681		
	(* 13)	52.8	1.6	10.2	21 43 1.53	3 30.611		
	Oeltzen S. 492 . .	54.7	3.3	12.0	22 7 3.33	2 37.311	0 53.54	3.868
	Euphrosyne . .	48.4	56.6	5.6	7 56.87	2 41.179		
	Oeltzen S. 492 . .	26.8	35.0	44.2	8 35.33	2 37.578	0 54.00	3.540
	Euphrosyne . .	20.8	29.2	38.0	9 29.33	2 41.218		
	Oeltzen S. 492 . .	23.6	32.2	40.9	10 32.23	2 37.646	0 53.57	3.886
	Euphrosyne . .	16.9	25.8	34.7	11 25.80	2 41.532		
	Oeltzen S. 492 . .	46.3	54.7	3.7	13 54.90	2 37.769	0 53.47	3.694
	Euphrosyne . .	39.6	48.3	57.2	14 48.37	2 41.463		
	Oeltzen S. 492 . .	52.4	1.2	9.6	16 1.07	2 37.782	0 53.26	3.820
	Euphrosyne . .	45.8	54.3	3.2	16 54.33	2 41.602		
	Oeltzen S. 492 . .	44.5	52.8	1.7	17 53.00	2 37.903	0 53.23	3.867
	Euphrosyne . .	37.3	46.3	55.1	18 46.23	2 41.770		
	Oeltzen S. 492 . .	5.6	14.3	23.1	22 14.33	2 38.142	0 53.24	3.800
	Euphrosyne . .	58.8	7.5	16.4	23 7.57	2 41.942		
	Oeltzen S. 492 . .	19.4	28.1	36.8	24 28.10	2 38.350	0 53.13	3.958
	Euphrosyne . .	12.4	21.0	30.3	25 21.23	2 42.308		
	Oeltzen S. 492 . .	8.3	16.7	25.8	27 16.93	2 38.239	+0 52.97	— 3.891
	Euphrosyne . .	1.6	9.7	18.6	22 28 9.90	2 42.130		
Sept. 12	Euphrosyne . .	21.8	34.6	47.1	21 41 34.50	3 47.394		
	Oeltzen S. 498, 499 .	29.2	42.0	54.9	41 42.03	3 42.314	—0 7.53	— 5.080
H.	Euphrosyne . .	4.4	17.1	30.0	44 17.17	3 47.627		
	Oeltzen S. 498, 499 .	12.2	25.0	37.8	44 25.00	3 42.363	0 7.83	5.264
	Euphrosyne . .	13.1	26.0	38.8	46 25.97	3 47.815		
	Oeltzen S. 498, 499 .	21.0	33.8	46.4	46 33.73	3 42.685	0 7.76	5.130
	Euphrosyne . .	11.2	24.0	36.8	48 24.00	3 47.880		
	Oeltzen S. 498, 499 .	19.0	31.9	44.6	48 31.83	3 42.774	0 7.83	5.106
	Euphrosyne . .	4.8	17.4	30.0	50 17.40	3 48.025		
	Oeltzen S. 498, 499 .	12.4	25.2	38.0	50 25.20	3 43.052	0 7.80	4.973
	Euphrosyne . .	59.9	12.6	25.2	52 12.57	3 48.121		
	Oeltzen S. 498, 499 .	7.9	20.7	33.2	52 20.60	3 43.020	0 8.03	5.101
	Euphrosyne . .	59.3	12.0	24.8	55 12.03	3 48.304		
	Oeltzen S. 498, 499 .	7.5	20.2	33.0	55 20.23	3 43.170	0 8.20	5.134
	Euphrosyne . .	6.3	19.0	32.0	57 19.10	3 48.430		
	Oeltzen S. 498, 499 .	14.4	27.3	40.0	57 27.23	3 43.260	0 8.13	5.170
	Euphrosyne . .	53.8	6.5	19.2	59 6.50	3 48.568		
	Oeltzen S. 498, 499 .	2.0	14.9	27.4	21 59 14.77	3 43.409	0 8.27	5.159
	Euphrosyne . .	49.1	1.9	. .	22 2 1.90	3 48.615		
	Oeltzen S. 498, 499 .	57.4	10.2	. .	22 2 10.20	3 43.526	—0 8.30	— 5.089

RESULTS.

m. s.
Corr. Chron. — 0 7.81

	α h. m. s.	δ ° ′ ″
Oeltzen S. 492,	0 47 20.57	—18 43 40.77

Euphrosyne—Oeltzen S. 492,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	22 6 13.96	+ 0 53.79	— 0 58.19
	Δ ρ	.00	— .09
	p	.14	+ 3.10

m. s.
Corr. Chron. — 0 9.20

	α h. m. s.	δ ° ′ ″
Oeltzen S. 498,	0 47 29.65	—18 45 15.13

Euphrosyne—Oeltzen S. 498,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	21 51 31.91	— 0 7.97	— 1 18.54
	Δ ρ	.00	— .13
	p	— .15	+ 3.08

EUPHROSYNE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1865.		40.3	. .	5.9					Corr. Chron. — 0 9.80
Sept. 14	Euphrosyne . .	44.3	53.2	2.1	21 54 53.16	3 45.073			α δ
H.		37.8	. .	3.3					h. m. s. ° ′ ″
	Oeltzen S. 498, 499 .	42.0	50.6	59.4	56 50.62	2 38.586	—1 57.46	— 19.272	Oeltzen S. 498, 0 47 29.68 —18 45 15.25
		33.7	. .	59.4					Euphrosyne—Oeltzen S. 498,
	Euphrosyne . .	37.9	46.6	55.3	21 58 46.58	3 45.364			Δ α Δ δ
		31.2	. .	56.8					h. m. s. m. s. ′ ″
	Oeltzen S. 498, 499 .	35.2	44.0	52.9	22 0 44.02	2 38.806	1 57.44	19.343	Sid. T. 22 2 13.92 — 1 57.62 — 4 56.53
									Δ ρ — .02 — .47
		46.2	. .	12.1					p — .14 + 3.14
	Euphrosyne . .	50.4	59.2	8.2	1 59.22	3 45.528			
		44.0	. .	9.6					
	Oeltzen S. 498, 499 .	48.1	57.0	5.8	3 56.90	2 39.000	1 57.68	19.313	
		11.8	. .	37.4					
	Euphrosyne . .	16.0	24.7	33.6	6 24.70	3 45.775			
		9.7	. .	35.1					
	Oeltzen S. 498, 499 .	13.8	22.4	31.3	8 22.46	2 39.218	1 57.76	19.342	
		42.1	. .	7.5					
	Euphrosyne . .	46.2	55.0	3.9	9 54.94	3 45.974			
		39.8	. .	5.4					
	Oeltzen S. 498, 499 .	44.0	52.7	1.6	22 11 52.70	2 39.357	—1 57.76	— 19.402	
		50.7	. .	16.0					m. s.
Sept. 16	Oeltzen S. 423 . .	54.9	3.2	12.0	21 53 3.36	2 34.193	+2 36.70	— 22.342	Corr. Chron. — 0 6.60
H.		27.3	. .	52.9					α δ
	Euphrosyne . .	31.3	39.9	48.9	55 40.06	3 43.750			h. m. s. ° ′ ″
									Oeltzen S. 423, 0 41 3.04 —18 47 35.68
		18.4	. .	43.9					Euphrosyne—Oeltzen S. 423,
	Oeltzen S. 423 . .	22.2	31.0	39.8	21 57 31.06	2 34.595	2 36.40	22.223	Δ α Δ δ
		54.7	. .	20.3					h. m. s. m. s. ′ ″
	Euphrosyne . .	58.7	7.4	16.2	22 0 7.46	3 44.033			Sid. T. 22 9 8.83 + 2 35.89 — 5 42.28
									Δ ρ — .02 — .52
		45.7	. .	11.1					p — .14 + 3.14
	Oeltzen S. 423 . .	49.8	58.6	7.2	1 58.48	2 34.726	2 35.96	22.335	
		21.8	. .	47.0					
	Euphrosyne . .	25.8	34.4	43.2	4 34.44	3 44.276			
		31.2	. .	56.9					
	Oeltzen S. 423 . .	35.4	43.8	53.0	6 44.06	2 34.974	2 35.86	22.233	
		7.1	. .	32.6					
	Euphrosyne . .	11.2	19.9	28.8	9 19.92	3 44.422			
		56.4	. .	21.8					
	Oeltzen S. 423 . .	0.6	9.2	18.0	11 9.20	2 35.160	2 35.48	22.249	
		32.0	. .	57.3					
	Euphrosyne . .	35.9	44.7	53.5	13 44.68	3 44.624			
		32.2	. .	57.3					
	Oeltzen S. 423 . .	36.2	44.8	53.2	15 44.74	2 35.293	2 35.48	22.402	
		7.6	. .	32.9					
	Euphrosyne . .	11.4	20.1	29.1	18 20.22	3 44.910			
		13.1	. .	38.5					
	Oeltzen S. 423 . .	17.3	25.8	34.7	20 25.88	2 35.418	+2 35.34	— 22.433	
		48.8	. .	13.9					
	Euphrosyne . .	52.5	1.1	9.8	22 23 1.22	3 45.066			
									m. s.
Sept. 19	Euphrosyne . .	17.8	26.6	35.3	22 12 26.57	4 45.665			Corr. Chron. — 0 3.80
	Oeltzen S. 423 . .	37.0	45.7	54.8	12 45.83	2 35.208	—0 19.26	— 36.319	α δ
H.									h. m. s. ° ′ ″
	Euphrosyne . .	51.8	0.2	9.0	15 0.33	4 45.662			Oeltzen S. 423, 0 41 3.07 —18 47 35.82
	Oeltzen S. 423 . .	11.0	19.6	28.7	15 19.77	2 35.232	0 19.44	36.292	
									Euphrosyne—Oeltzen S. 423,
	Euphrosyne . .	17.0	25.8	34.4	17 25.73	4 45.649			Δ α Δ δ
	Oeltzen S. 423 . .	36.4	45.2	54.0	17 45.20	2 35.307	0 19.47	36.204	h. m. s. m. s. ′ ″
									Sid. T. 22 24 14.74 — 0 19.74 — 9 17.24
	Euphrosyne . .	27.7	36.4	45.3	19 36.47	4 45.884			Δ ρ — .02 — .74
	Oeltzen S. 423 . .	47.2	56.0	4.9	22 19 56.03	2 35.450	—0 19.56	— 36.296	p — .13 + 3.23

(Continued.)

EUPHROSYNE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 19	Euphrosyne . .	56.1	4.9	13.9	22 22 4.97	4 46.050			
H.	Oeltzen S. 423 . .	15.8	24.4	33.4	22 24.53	2 35.464	—0 19.56	— 36.448	
	Euphrosyne . .	41.0	49.6	58.6	25 49.73	4 46.235			
	Oeltzen S. 423 . .	0.9	9.7	18.2	26 9.60	2 35.832	0 19.87	36.265	
	Euphrosyne . .	55.0	3.7	12.4	29 3.70	4 46.240			
	Oeltzen S. 423 . .	14.5	23.5	32.4	29 23.47	2 35.788	0 19.77	36.314	
	Euphrosyne . .	13.9	22.6	31.3	31 22.60	4 46.382			
	Oeltzen S. 423 . .	34.0	42.5	51.4	31 42.63	2 35.800	0 20.03	36.444	
	Euphrosyne . .	44.1	53.0	1.9	33 53.00	4 46.420			
	Oeltzen S. 423 . .	4.4	13.2	22.0	34 13.20	2 35.890	0 20.20	36.392	
	Euphrosyne . .	13.6	22.3	31.1	36 22.33	4 46.490			
	Oeltzen S. 423 . .	34.0	42.4	51.3	22 36 42.57	2 36.003	—0 20.24	— 36.349	
Sept. 20		10.7	. .	36.5					Corr. Chron. m. s. — 0 4.09
F.	Euphrosyne . .	14.8	22.9	32.5	22 4 23.48	5 43.158			α δ
		29.8	. .	56.5					h. m. s. ° ′ ″
	Oeltzen S. 423 . .	33.8	42.7	51.5	5 42.86	2 46.250	—1 19.38	— 39.778	Oeltzen S. 423, 0 41 3.07 —18 47 35.35
		52.9	. .	18.2					Euphrosyne—Oeltzen S. 423,
	Euphrosyne . .	57.1	5.5	14.4	7 5.62	5 43.043			Δ α Δ δ
		11.8	. .	37.6					h. m. s. m. s. ′ ″
	Oeltzen S. 423 . .	15.8	24.6	33.8	22 8 24.72	2 46.292	—1 19.10	— 39.621	Sid. T. 22 5 44.55 — 1 19.24 —10 8.35
									Δ ρ — .04 — .99
									p — .14 + 3.19

FAYE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Sept. 12		37.0	. .	0.8					Corr. Chron. — 0 9.15
	Comet	40.9	49.4	57.2	20 14 49.06	4 35.910			α δ
H.		11.8	. .	35.8					h. m. s. ° ′ ″
	W. 134	15.7	23.7	32.0	15 23.80	4 42.100	—0 34.74	+ 6.190	W. 134, 21 47 47.22 + 3 7 24.51
		27.6	. .	51.9					Comet—W. 134,
	Comet	31.0	40.0	48.0	18 39.70	4 36.530			Δ α Δ δ
		2.3	. .	26.9					h. m. s. m. s. ′ ″
	W. 134	6.2	14.5	22.2	19 14.42	4 42.060	0 34.72	5.530	Sid. T. 20 27 0.47 — 0 35.05 + 1 28.36
		24.0	. .	47.8					Δ ρ .00 + .04
	Comet	27.6	36.4	44.4	22 36.04	4 36.750			p — .12 + 3.94
		58.9	. .	22.2					
	W. 134	2.6	10.9	18.1	23 10.54	4 42.300	0 34.50	5.550	
		48.2	. .	13.1					
	Comet	51.4	0.4	9.0	27 0.42	4 36.260			
		23.3	. .	48.2					
	W. 134	27.3	35.5	44.1	27 35.68	4 42.190	0 35.26	5.930	
		52.4	. .	16.3					
	Comet	56.5	. .	12.2	30 4.35	4 39.020			
		27.6	. .	52.0					
	W. 134	31.6	40.0	48.2	31 39.88	4 44.760	0 35.53	5.740	
		59.7	. .	24.2					
	Comet	4.0	12.7	21.9	36 12.50	4 39.620			
		35.3	. .	59.4					
	W. 134	39.2	47.2	56.1	36 47.44	4 44.920	0 34.94	5.300	
		32.7	. .	56.8					
	Comet	36.6	45.6	54.2	40 45.18	4 39.070			
		8.7	. .	32.9					
	W. 134	12.2	21.0	29.3	20 41 20.82	4 45.160	—0 35.64	+ 6.090	
									m. s.
Sept. 16	Weisse XXI, 1037 .	17.5	26.0	34.2	20 13 25.90	3 36.400	+0 24.03	+ 6.021	Corr. Chron. — 0 6.70
	Comet	41.4	49.8	58.6	13 49.93	2 43.164			α δ
H.									h. m. s. ° ′ ″
	Weisse XXI, 1037 .	54.2	2.5	11.2	17 2.63	3 36.533	0 23.87	5.878	Weisse XXI, 1037, 21 44 24.13 + 2 29 3.81
	Comet	18.2	26.2	35.1	17 26.50	2 43.440			Comet—Weisse XXI, 1037,
	Weisse XXI, 1037 .	47.7	55.6	4.1	20 55.80	3 36.375	0 23.73	6.318	Δ α Δ δ
	Comet	11.6	19.2	27.8	21 19.53	2 42.842			h. m. s. m. s. ′ ″
									Sid. T. 20 34 15.91 + 0 23.51 + 1 33.11
	Weisse XXI, 1037 .	44.4	52.6	1.1	24 52.70	3 36.920	0 23.90	6.731	Δ ρ .00 + .04
	Comet	7.9	16.9	25.0	25 16.60	2 42.974			p — .11 + 4.01
	Weisse XXI, 1037 .	11.6	19.4	28.0	32 19.67	3 36.915	0 23.70	6.314	
	Comet	35.7	43.2	51.2	32 43.37	2 43.386			
	Weisse XXI, 1037 .	12.1	19.9	28.3	36 20.10	3 37.025	0 23.70	6.305	
	Comet	36.2	43.7	51.5	36 43.80	2 43.505			
	Weisse XXI, 1037 .	12.2	20.4	28.9	41 20.50	3 36.894	0 23.27	6.325	
	Comet	35.3	43.8	52.2	41 43.77	2 43.354			
	Weisse XXI, 1037 .	58.7	7.2	15.4	45 7.10	3 37.110	0 23.05	5.645	
	Comet	22.0	. .	38.3	45 30.15	2 44.250			
	Weisse XXI, 1037 .	20.1	27.9	36.4	52 28.13	3 37.257	0 23.04	5.579	
	Comet	43.2	51.0	59.3	52 51.17	2 44.463			
	Weisse XXI, 1037 .	50.2	58.4	6.5	55 58.37	3 37.155	+0 22.76	+ 5.590	
	Comet	13.0	21.1	29.3	20 56 21.13	2 44.350			
Sept. 19	Comet	28.6	57.2	45.1	21 12 36.97	4 38.430			
	W. 135	31.0	39.5	48.0	12 39.50	3 36.950	—0 2.53	— 14.657	
H.									
	Comet	7.9	15.9	24.4	13 16.07	4 38.000			
	W. 135	10.4	18.7	27.3	21 13 18.80	3 36.800	—0 2.73	— 14.277	

(Continued.)

FAYE'S COMET.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 19	Comet	44.9	52.9	1.4	21 13 53.07	4 38.545			m. s. Corr. Chron. — 0 3.90
	W. 135	47.3	55.4	4.2	13 55.63	3 37.670	—0 2.56	— 13.952	α δ
H.									h. m. s. ° ′ ″
	Comet	55.9	4.2	13.0	25 4.37	4 38.570			W. 135, 21 43 15.59 + 2 4 19.06
	W. 135	58.7	6.8	14.8	25 6.77	3 37.530	0 2.40	14.117	Comet—W. 135,
	Comet	21.4	30.0	38.4	28 29.93	4 38.660			Δ α Δ δ
	W. 135	24.7	33.2	41.4	28 33.10	3 37.640	0 3.17	14.097	h. m. s. m. s. ′ ″
	Comet	59.9	7.9	17.1	32 8.30	4 39.030			Sid. T. 21 31 7.45 — 0 2.92 — 3 41.52
	W. 135	3.2	11.2	19.9	32 11.43	3 37.610	0 3.13	14.497	Δ ρ .00 — .10
	Comet	40.8	48.9	58.0	35 49.23	4 39.610			ρ — .02 + 4.05
	W. 135	43.9	52.0	0.3	35 52.07	3 37.690	0 2.84	14.977	
	Comet	3.4	11.8	20.4	45 11.87	4 39.170			
	W. 135	7.2	15.0	23.6	45 15.27	3 37.680	0 3.40	14.567	
	Comet	30.6	38.8	47.7	50 39.03	4 39.390			
	W. 135	33.9	41.8	50.6	50 42.10	3 37.710	0 3.07	14.757	
	Comet	35.2	43.7	52.2	54 43.70	4 39.346			
	W. 135	38.8	46.8	55.7	21 54 47.10	3 37.890	—0 3.40	— 14.533	
Sept. 20		53.3	. .	17.6					m. s. Corr. Chron. — 0 4.01
	B. A. C. 7587 . .	57.0	5.3	13.7	20 22 5.38	1 33.615	+2 17.96	— 50.163	α δ
F.		11.0							h. m. s. ° ′ ″
	Comet	. .	23.6	31.6	24 23.34	4 40.785			B. A. C. 7587, 21 40 26.87 + 2 4 16.69
		16.6	. .	40.8					Comet—B. A. C. 7587,
	B. A. C. 7587 . .	20.6	28.4	36.8	27 28.64	1 33.808	2 18.42	50.755	Δ α Δ δ
		34.9							h. m. s. m. s. ′ ″
	Comet	38.7	46.9	55.6	29 47.06	4 41.570			Sid. T. 20 39 32.98 + 2 17.78 —13 4.89
		59.9	. .	24.1					Δ ρ .00 — .35
	B. A. C. 7587 . .	4.2	11.8	20.3	32 12.06	1 33.800	2 17.65	51.141	ρ — .10 + 4.08
		17.6							
	Comet	. .	29.4	. .	35 29.71	4 41.948			
		14.4	. .	38.6					
	B. A. C. 7587 . .	18.3	26.5	34.8	38 26.52	1 34.275	2 17.20	51.388	
	Comet	. .	43.7	. .	20 39 43.72	4 42.670			
	B. A. C. 7587 . .	15.5	23.7	32.2	21 6 23.80	1 40.821	+2 17.70	— 52.422	
	Comet	. .	41.7	49.6	21 8 41.50	4 50.250			

		o	i	i′	o′	Mean.	Δ α	Δ δ	
		s.	s.	s.	s.	h. m. s.	m. s.	′ ″	
Sept. 21	W. 136	59.8	. .	. .	40.0	21 2 19.90			
	Comet	52.2	. .	. .	30.9	3 11.55	+0 51.65	+ 1 19.9	Observed with ring micrometer.
H.									m. s.
	W. 136	47.4	. .	. .	27.6	4 7.50			Corr. Chron. — 0 3.90
	Comet	40.0	. .	. .	19.9	4 59.95	0 52.45	0 32.7	α δ
									h. m. s. ° ′ ″
	W. 136	40.0	. .	. .	20.7	6 0.35			W. 136, 21 41 25.16 + 1 40 32.41
	Comet	32.8	. .	. .	11.7	6 52.25	0 51.90	1 14.2	Comet—W. 136,
	W. 136	3.8	7.3	40.3	44.0	8 23.85			Δ α Δ δ
	Comet	55.8	0.2	32.0	34.7	9 15.68	0 51.83	1 13.2	h. m. s. m. s. ′ ″
	W. 136	5.0	8.0	41.6	45.2	10 24.95			Sid. T. 21 17 41.43 + 0 52.06 Rejected.
	Comet	57.5	1.7	33.0	37.0	11 17.30	0 52.35	1 11.7	Δ ρ .00
									ρ — .02
	W. 136	51.3	55.1	28.2	31.8	12 11.60			
	Comet	44.5	47.2	19.9	23.3	13 3.72	0 52.12	+ 1 1.5	
	W. 136	53.1	57.0	30.1	33.4	22 13.40			
	Comet	45.0	49.0	22.0	26.0	21 23 5.50	+0 52.10		

(Continued.)

FAYE'S COMET.

DATE.	OBJECTS.	*o*	*i*	*i*	*o'*	Mean.	Δ *a*	Δ *δ*
1865.		s.	s.	s.	s.	h. m. s.	m. s.	′ ″
Sept. 21	W. 136	41.4	45.3	18.6	22.0	21 24 1.82		
	Comet	34.0	37.8	10.3	14.0	24 54.02	+0 52.20	+ 0 41.9
H.								
	W. 136	31.8	35.2	8.4	12.0	25 51.85		
	Comet . . .	23.9	27.1	0.6	3.7	26 43.82	0 51.97	0 11.5
	W. 136	29.1	32.8	6.4	9.5	27 49.45		
	Comet	21.2	25.6	57.9	0.7	21 28 41.35	+0 51.90	+ 0 56.2

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	COMET—STAR. Δ *a*	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 10	Comet	34.8	43.2	51.5	20 47 43.17	4 32.830		
	W. 137	12.0	20.0	27.8	48 19.93	2 37.100	−0 36.76	− 21.527
H.								
	Comet	45.0	53.9	2.0	50 53.63	4 32.990		
	W. 137	22.7	30.6	39.1	51 30.80	2 37.350	0 37.17	21.437
	Comet	45.1	52.8	0.9	54 52.93	4 33.536		
	W. 137 . . .	22.7	30.5	38.4	20 55 30.53	2 37.650	0 37.60	21.683
	Comet	10.9	18.4	26.7	21 5 18.67	4 33.185		
	W. 137	. .	55.6	4.0	6 55.70	2 38.080	0 37.03	20.902
	Comet	19.4	26.9	35.2	10 27.17	4 34.440		
	W. 137	. .	4.9	13.0	21 11 4.80	2 37.960	−0 37.63	− 22.277

RESULTS.

m. s.
Corr. Chron. + 0 28.70

	a	*δ*
	h. m. s.	° ′ ″
W. 137,	21 40 12.47	— 1 15 35.08

Comet—W. 137,

	Δ *a*	Δ *δ*
	m. s.	′ ″
Sid. T. 20 58 19.81	— 0 37.24	— 5 30.75
Δ *ρ*	.00	— .15
p	— .06	+ 4.25

DIANA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 23		29.0	. .	53.6					Corr. Chron. + 0 2.80
	Weisse XXIII, 386 .	33.1	41.3	49.5	22 8 41.30	3 30.130	+0 54.42	— 7.357	α δ
H.		23.6	. .	47.9					h. m. s. ° ′ ″
	Diana	27.4	35.8	43.9	9 35.72	3 37.487			Weisse XXIII, 386, 23 19 58.08 + 0 59 7.10
		2.0	. .	26.3					Diana—Weisse XXIII, 386,
	Weisse XXIII, 386 .	6.0	14.0	22.2	11 14.10	3 30.068	0 54.16	7.533	Δ α Δ δ
		56.0	. .	20.5					h. m. s. m. s. ′ ″
	Diana	0.2	8.3	16.3	12 8.26	3 37.601			Sid. T. 22 21 6.82 + 0 53.89 — 1 56.67
									Δ ρ .00 — .05
		21.1	. .	45.4					ρ — .06 + 2.89
	Weisse XXIII, 386 .	25.0	33.3	41.5	15 33.26	3 30.304	0 54.14	7.488	
		15.0	. .	39.8					
	Diana	19.1	27.3	35.8	16 27.40	3 37.792			
		28.4	.	52.7					
	Weisse XXIII, 386 .	32.3	40.7	48.1	18 40.44	3 30.326	0 54.02	7.586	
		22.1	. .	46.9					
	Diana	26.3	34.5	42.5	19 34.46	3 37.912			
		47.8	. .	11.9					
	Weisse XXIII, 386 .	51.7	59.8	7.9	21 59.82	3 30.507	0 53.78	7.582	
		41.3	. .	6.0					
	Diana	45.2	53.7	1.8	22 53.60	3 38.089			
		34.0	. .	58.4					
	Weisse XXIII, 386 .	38.0	46.3	54.3	25 46.20	3 30.465	0 53.76	7.712	
		27.8	. .	52.1					
	Diana	31.8	40.1	48.0	26 39.96	3 38.177			
		8.6	. .	33.0					
	Weisse XXIII, 386 .	12.6	20.8	28.8	28 20.76	3 30.414	0 53.42	7.758	
		2.2	. .	26.5					
	Diana	6.0	14.0	22.2	29 14.18	3 38.172			
		53.1	. .	17.2					
	Weisse XXIII, 386 .	57.0	5.2	13.2	31 5.14	3 30.437	+0 53.42	— 7.833	
		46.4	. .	10.8					
	Diana	50.2	58.6	6.8	22 31 58.56	3 38.270			
		32.3	. .	55.9					
Sept. 26	Diana	35.8	44.2	52.3	22 1 44.10	1 42.527			Corr. Chron. + 0 6.10
		25.0	. .	49.1					α δ
H.	B. A. C. 8169 . .	28.9	. .	45.0	3 37.00	5 37.912	—1 52.90	+ 55.351	h. m. s. ° ′ ″
									B. A. C. 8169, 23 20 4.54 + 0 31 28.78
		23.4	. .	47.5					Diana—B. A. C. 8169,
	Diana	27.4	35.4	43.4	5 35.42	1 42.546			Δ α Δ δ
		16.1	. .	40.4					h. m. s. m. s. ′ ″
	B. A. C. 8169 . .	20.2	28.2	36.4	7 28.26	5 37.932	1 52.84	55.352	Sid. T. 22 19 4.37 — 1 53.50 +14 5.62
									Δ ρ .00 + .39
		48.0	. .	11.9					ρ — .08 + 2.86
	Diana	51.8	0.0	7.9	8 59.92	1 42.780			
		41.1	. .	5.2					
	B. A. C. 8169 . .	45.1	53.0	1.2	10 53.12	5 37.953	1 53.20	55.139	
		56.5	. .	20.1					
	Diana	0.1	8.2	16.1	13 8.20	1 42.755			
		49.6	. .	13.7					
	B. A. C. 8169 . .	53.4	1.6	9.7	15 1.60	5 38.014	1 53.40	55.225	
		27.4	. .	51.4					
	Diana	31.2	39.5	47.3	16 39.36	1 42.832			
		20.9	. .	44.9					
	B. A. C. 8169 . .	24.7	32.9	40.9	18 32.86	5 38.055	1 53.50	55.189	
		8.4	. .	32.6					
	Diana	12.3	20.3	28.3	21 20.38	1 43.186			
		2.0	. .	26.2					
	B. A. C. 8169 . .	6.0	14.0	22.1	23 14.06	5 38.120	1 53.68	54.900	
		48.2	. .	12.2					
	Diana	52.2	0.2	8.2	25 0.20	1 43.064			
		42.0	. .	6.0					
	B. A. C. 8169 . .	45.8	53.9	2.0	22 26 53.94	5 38.162	—1 53.74	+ 55.064	

(Continued.)

DIANA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 26		29.6	. .	53.5					
H.	Diana	33.4	41.7	49.6	22 28 41.56	1 43.210			
		23.3	. .	47.2					
	B. A. C. 8169 . .	27.0	35.2	43.3	30 35.20	5 38.285	—1 53.64	+ 55.031	
		0.9	. .	24.9					
	Diana	4.9	12.9	20.8	32 12.88	1 43.248			
		54.6	. .	19.0					
	B. A. C. 8169 . .	58.6	6.8	15.0	34 6.80	5 38.378	1 53.92	55.096	
		8.8	. .	32.7					
	Diana	12.6	20.7	28.6	36 20.68	1 43.357			
		2.8	. .	27.0					
	B. A. C. 8169 . .	6.7	15.0	23.0	22 38 14.90	5 38.383	—1 54.22	+ 54.992	
									m. s.
Sept. 27		57.7	. .	21.9					Corr. Chron. + 0 7.56
	Diana	1.5	9.8	17.8	20 23 9.74	2 40.342			α δ
F.		39.3	. .	4.1					h. m. s. ° ′ ″
	B. A. C. 8169 . .	43.0	51.3	59.5	25 51.44	5 39.838	—2 41.70	+ 42.209	B. A. C. 8169, 23 20 4.54 + 0 31 28.81
		25.3	. .	49.7					Diana—B. A. C. 8169,
	Diana	29.3	37.5	45.5	29 37.46	2 40.789			Δ α Δ δ
		7.2	. .	31.3					h. m. s. m. s. ′ ″
	B. A. C. 8169 . .	11.2	19.5	27.2	32 19.28	5 40.217	2 41.82	42.141	Sid. T. 20 46 20.92 — 2 42.45 +10 46.30
									Δ ρ — .01 + .36
		50.7	. .	14.8					ρ — .14 + 2.82
	Diana	54.7	2.6	11.3	35 2.82	2 40.800			
		32.7	. .	57.1					
	B. A. C. 8169 . .	36.6	44.8	52.8	37 44.80	5 40.470	2 41.98	42.383	
		39.8	. .	4.2					
	Diana	44.0	52.2	0.1	39 52.06	2 40.962			
		23.3	. .	46.7					
	B. A. C. 8169 . .	26.1	34.2	42.6	42 34.38	5 40.593	2 42.32	42.344	
		59.4	. .	23.4					
	Diana	3.2	11.4	19.3	44 11.34	2 41.212			
		41.6	. .	6.1					
	B. A. C. 8169 . .	45.6	53.8	2.0	46 53.82	5 40.790	2 42.38	42.291	
		10.5	. .	34.4					
	Diana	14.7	22.8	30.8	48 22.64	2 41.519			
		52.8	. .	17.4					
	B. A. C. 8169 . .	56.8	5.2	13.4	51 5.12	5 40.825	2 42.48	42.019	
		39.2	. .	3.4					
	Diana	43.2	51.3	59.3	53 51.28	2 41.672			
		21.9	. .	46.3					
	B. A. C. 8169 . .	25.8	34.0	42.1	56 34.02	5 40.995	2 42.74	42.036	
		5.3	. .	29.7					
	Diana	9.3	17.5	25.6	58 17.48	2 41.724			
		48.1	. .	12.5					
	B. A. C. 8169 . .	52.0	0.5	8.3	1 0.28	5 40.981	2 42.80	41.970	
		36.4	. .	59.6					
	Diana	39.4	47.5	55.4	2 47.46	2 41.968			
		18.4	. .	42.7					
	B. A. C. 8169 . .	22.2	30.6	38.6	5 30.50	5 41.211	2 43.04	41.956	
		49.2	. .	13.3					
	Diana	53.1	1.6	9.4	7 1.32	2 42.073			
		32.4	. .	56.9					
	B. A. C. 8169 . .	36.5	44.4	52.8	20 9 44.60	5 41.398	—2 43.28	+ 42.038	

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 23		59.4	. .	24.0					Corr. Chron. + 0 2.80
	Io	3.3	11.6	19.8	23 21 11.62	5 30.403			α δ
H.		27.5	. .	52.4					h. m. s. ° ′ ″
	Weisse I, 201 . .	31.5	39.9	48.1	23 39.88	4 28.178	−2 28.26	− 19.241	Weisse I, 201, 1 13 45.84 +12 9 30.53
		50.8	. .	15.2					
	Io	54.6	3.0	11.0	27 2.92	5 30.520			Io—Weisse I, 201,
		19.0	. .	43.7					Δ α Δ δ
	Weisse I, 201 . .	23.0	31.3	39.6	29 31.32	4 28.166	2 28.40	19.370	h. m. s. m. s. ′ ″
		55.0	. .	19.7					Sid. T. 23 34 1.32 − 2 28.66 − 5 1.1
	Io	59.0	7.3	15.7	32 7.34	5 30.800			Δ ρ .00 — .11
		23.8	. .	48.6					p − .14 + 3.02
	Weisse I, 201 . .	27.6	36.0	44.2	34 36.04	4 28.244	2 28.70	19.571	
		32.1	. .	56.9					
	Io	36.2	44.3	52.8	36 44.46	5 30.914			
		0.7	. .	25.7					
	Weisse I, 201 . .	4.7	13.1	21.4	39 13.12	4 28.327	2 28.66	19.603	
		21.4	. .	46.5					
	Io	25.6	34.0	42.2	40 33.94	5 31.089			
		50.5	. .	15.2					
	Weisse I, 201 . .	54.5	3.0	11.1	43 2.86	4 28.384	2 28.92	19.721	
		58.7	. .	23.4					
	Io	2.7	11.0	19.0	46 10.96	5 31.463			
		27.6							
	Weisse I, 201 . .	31.6	40.0	48.2	23 48 39.96	4 28.160	−2 29.00	− 20.319	
		30.0	. .	54.8					
Sept. 26	Weisse I, 55 . .	34.0	42.6	50.6	22 55 42.40	3 41.558	+4 1.20	− 2.468	Corr. Chron. + 0 6.10
		31.3	. .	56.0					α δ
H.	Io	35.3	43.6	51.8	22 59 43.60	3 44.026			h. m. s. ° ′ ″
		8.8	. .	33.3					Weisse I, 55, 1 5 17.85 +11 34 19.53
	Weisse I, 55 . .	12.9	21.0	29.2	23 1 21.04	3 41.667	4 0.78	2.578	
		9.4	. .	34.3					Io—Weisse I, 55,
	Io	13.4	21.9	30.1	5 21.82	3 44.245			Δ α Δ δ
		47.8	. .	12.5					h. m. s. m. s. ′ ″
	Weisse I, 55 . .	51.9	0.2	8.3	8 0.14	3 41.842	4 0.70	2.748	Sid. T. 23 15 11.01 + 4 0.65 − 0 44.46
		48.3	. .	13.3					Δ ρ .00 — .01
	Io	52.5	1.0	9.1	12 0.84	3 44.590			p − .14 + 3.09
		50.7	. .	15.6					
	Weisse I, 55 .	54.6	3.2	11.3	14 3.08	3 41.905	4 0.64	2.985	
		51.3	. .	16.0					
	Io	55.3	4.0	12.0	18 3.72	3 44.890			
		28.3	. .	53.1					
	Weisse I, 55 . .	32.2	40.5	48.6	20 40.54	3 41.956	4 0.36	3.188	
		28.7	. .	53.2					
	Io	32.6	40.9	49.1	24 40.90	3 45.144			
		26.1	. .	50.8					
	Weisse I, 55 . .	30.0	38.3	46.7	26 38.38	3 42.081	+4 0.22	− 3.383	
		26.2	. .	51.0					
	Io	30.2	38.7	46.9	23 30 38.60	3 45.464			
		54.3	. .	19.5					
Sept. 27	Weisse I, 55 . .	58.1	6.8	15.1	21 33 6.76	1 40.664	+3 22.68	− 41.814	
		17.2	. .	41.8					
F.	Io	21.2	29.6	37.4	36 29.44	4 39.528			
		51.1	. .	16.2					
	Weisse I, 55 . .	55.0	3.5	11.8	38 3.52	1 40.910	−3 22.42	− 42.001	
				38.4					
	Io	17.7	25.8	34.3	21 41 25.94	4 39.961			

(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Sept. 27		32.9	. .	57.5				
	Weisse I, 55 . .	36.8	45.3	53.5	21 43 45.20	1 41.096	+3 22.30	— 42.157
F.				20.2				
	Io	. .	7.2	15.8	47 7.50	4 40.303		
		33.8	. .	58.4				
	Weisse I, 55 . .	37.7	46.4	54.4	48 46.14	1 41.302	3 22.04	42.220
		55.8	. .	20.5				
	Io	59.9	8.3	16.4	52 8.18	4 40.572		
		48.4	. .	13.2				
	Weisse I, 55 . .	52.3	0.7	9.1	54 0.74	1 41.540	3 22.02	42.279
		10.4	. .	35.2				
	Io	14.5	22.8	30.9	57 22.76	4 40.869		
		56.4	. .	21.1				
	Weisse I, 55 . .	0.2	8.7	16.8	21 59 8.64	1 41.545	3 21.86	42.485
		18.4	. .	42.9				
	Io	22.1	30.5	38.6	22 2 30.50	4 41.080		
		53.9	. .	18.7				
	Weisse I, 55 . .	57.9	6.5	14.6	4 6.32	1 41.852	3 21.74	42.660
		15.7	. .	40.4				
	Io	19.8	28.1	36.3	7 28.06	4 41.562		
		28.3	. .	53.1				
	Weisse I, 55 . .	32.3	40.4	48.9	8 40.60	1 41.959	3 21.46	42.631
		49.8	. .	14.3				
	Io	53.7	2.2	10.3	12 2.06	4 41.640		
		9.2	. .	34.2				
	Weisse I, 55 . .	13.3	21.5	29.9	13 21.62	1 41.961	3 21.32	42.907
		30.6	. .	55.4				
	Io	34.6	42.8	51.3	16 42.94	4 41.918		
		45.6	. .	10.5				
	Weisse I, 55 . .	49.5	57.9	6.2	17 57.94	1 42.122	+3 21.30	— 43.070
		6.8	. .	31.7				
	Io	10.9	19.3	27.5	22 21 19.24	4 42.242		
Sept. 28		11.9	. .	36.4				
	Weisse I, 62 . .	15.6	24.1	32.2	23 0 24.04	3 34.538	+2 11.92	— 18.208
H.		23.6	. .	48.3				
	Io	27.7	36.0	44.2	2 35.96	4 39.715		
		59.3	. .	24.1				
	Weisse I, 62 . .	3.2	11.7	19.9	4 11.64	3 34.508	2 11.56	18.339
		11.0	. .	35.6				
	Io	14.8	23.2	31.4	6 23.20	4 39.816		
		39.1	. .	3.7				
	Weisse I, 62 . .	43.0	51.2	59.5	7 51.30	3 34.590	2 11.42	18.377
		50.3	. .	15.1				
	Io	54.4	2.7	11.1	9 2.72	4 39.936		
		4.0	. .	28.6				
	Weisse I, 62 . .	7.9	16.1	24.3	12 16.18	3 34.793	2 11.50	18.588
		15.4	. .	40.0				
	Io	19.3	27.8	35.9	14 27.68	4 40.350		
		21.0	. .	45.7				
	Weisse I, 62 . .	25.0	33.2	41.4	16 33.26	3 34.826	2 11.36	18.640
		32.3	. .	57.0				
	Io	36.1	44.7	53.0	18 44.62	4 40.435		
		31.4	. .	56.2				
	Weisse I, 62 . .	35.4	44.0	52.0	20 43.80	3 35.718	+2 11.18	— 18.676
		42.7	. .	7.3				
	Io	46.7	55.0	3.2	23 22 54.98	4 41.363		

RESULTS.

m. s.
Corr. Chron. + 0 7.65

	h. m. s.	° ′ ″
	α	δ
Weisse I, 55,	1 5 17.87	+11 34 19.56

Io—Weisse I, 55,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	21 59 35.31	+ 3 21.91	—10 50.64
Δ ρ		+ .01	— .31
p		— .26	+ 3.41

m. s.
Corr. Chron. + 0 8.70

	h. m. s.	° ′ ″
	α	δ
Weisse I, 62,	1 5 44.17	+11 16 50.90

Io—Weisse I, 62,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	23 12 30.23	+ 2 11.49	— 4 43.29
Δ ρ		.00	— .11
p		— .17	+ 3.17

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs	m. s.	revs.	
1865. Sept. 29 F.		14.2	. .	38.9					Corr. Chron. + 0 11.75
	Weisse I, 65 . .	18.0	26.4	34.5	20 51 26.40	2 46.420			α δ
		16.6	. .	41.4					h. m. s. ° ′ ″
	Weisse I, 66 . .	20.5	28.7	37.0	51 28.84	3 49.402	+1 10.70	+ 15.657	Weisse I, 66, 1 6 6.84 +10 58 17.72
				51.8					
	Io	31.4	39.5	47.7	52 39.54	2 46.511			Io—Weisse I, 66,
		23.4	. .	48.0					Δ α Δ δ
	Weisse I, 66 . .	27.4	35.5	43.8	54 35.62	3 49.590	1 10.50	15.509	h. m. s. m. s. ′ ″
		33.9	. .	58.4					Sid. T. 21 30 0.17 + 1 9.73 + 3 39.9
	Io	37.8	46.3	54.2	55 46.12	2 46.847			Δ ρ .00 + .11
									ρ — .28 + 3.47
		15.4	. .	40.1					
	Weisse I, 66 . .	19.4	27.7	36.1	20 59 27.74	3 49.815	1 10.50	15.276	
				50.8					
	Io	29.7	38.5	46.3	21 0 38.24	2 47.305			
		6.6	. .	30.9					
	Weisse I, 66 . .	10.2	18.4	26.6	2 18.54	3 49.610	1 10.38	15.046	
		16.7	. .	41.3					
	Io	20.6	. .	37.1	3 28.92	2 47.330			
		56.2	. .	20.9					
	Weisse I, 66 . .	0.4	8.7	16.8	5 8.60	3 49.925	1 10.30	15.141	
		6.6	. .	31.3					
	Io	10.6	18.9	27.1	6 18.90	2 47.550			
		39.4	. .	3.6					
	Weisse I, 66 . .	43.1	51.3	59.7	7 51.42	3 49.943	1 10.34	15.019	
		49.6	. .	14.1					
	Io	53.3	1.8	10.0	9 1.76	2 47.690			
		24.6	. .	49.3					
	Weisse I, 66 . .	28.5	36.8	45.1	11 36.86	3 50.159	1 10.18	15.019	
		34.8	. .	59.5					
	Io	38.8	47.1	55.0	12 47.04	2 47.906			
		50.8	. .	15.6					
	Weisse I, 66 . .	54.8	3.3	11.4	14 3.18	3 50.292	1 10.26	14.929	
		1.3	. .	25.8					
	Io	5.1	13.4	21.6	15 13.44	2 48.129			
		20.8	. .	45.6					
	Weisse I, 66	24.8	33.3	41.5	16 33.20	3 50.303	1 10.14	14.860	
		31.1	. .	55.6					
	Io	35.2	43.1	51.7	17 43.34	2 48.209			
		3.1	. .	27.8					
	Weisse I, 66 . .	7.1	15.3	23.5	20 15.36	3 50.540	1 10.25	14.706	
		13.3	. .	37.9					
	Io	16.9	25.3	. .	21 25.47	2 48.600			
		55.1	. .	19.8					
	Weisse I, 66 . .	58.9	7.4	15.7	23 7.38	3 50.595	1 10.06	14.546	
		5.1							
	Io	9.0	17.5	. .	24 17.44	2 48.815			
		16.0	. .	41.3					
	Weisse I, 66 . .	20.6	29.1	37.2	28 28.84	3 50.734	1 10.06	14.405	
		26.7	. .	51.2					
	Io	30.6	38.8	47.2	29 38.90	2 49.095			
		54.2	. .	18.6					
	Weisse I, 66 . .	57.9	6.3	14.6	32 6.32	3 50.902	1 9.70	14.168	
		3.8	. .	28.2					
	Io	7.7	15.9	24.5	33 16.02	2 49.500			
		46.6	. .	10.3					
	Weisse I, 66 . .	50.5	58.9	7.1	34 58.68	3 51.047	1 9.60	14.193	
		56.1	. .	20.5					
	Io	0.1	8.3	16.4	36 8.28	2 49.620			
		4.2	. .	28.7					
	Weisse I, 66 . .	8.1	16.4	24.5	58 16.38	3 51.720	+1 8.82	+ 13.285	
				37.4					
	Io	16.7	25.5	33.4	21 59 25.20	2 51.201			

(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 29		41.2	. .	5.8					
	Weisse I, 66 . .	44.9	53.3	1.6	22 0 53.36	3 51.790	+1 8.72	+ 13.227	
F.		49.8	. .	14.4					
	Io	53.8	2.1	10.3	2 2.08	2 51.329			
		21.9	. .	46.7					
	Weisse I, 66 . .	25.9	34.1	42.3	3 34.18	3 51.960	1 8.66	13.331	
		30.6	.	54.9					
	Io	34.6	42.9	51.2	4 42.84	2 51.395			
		50.2	. .	15.1					
	Weisse I, 66 . .	54.3	2.5	10.7	6 2.56	3 51.972	1 8.50	13.029	
		59.0	. .	23.2					
	Io	2.8	11.1	. .	7 11.06	2 51.709			
		32.6	. .	57.3					
	Weisse I, 66 . .	36.6	44.8	53.3	9 44.92	3 52.108	1 8.52	12.880	
		41.3	. .	5.9					
	Io	45.0	53.2	1.8	10 53.44	2 51.994			
		19.8							
	Weisse I, 66 . .	23.6	32.0	40.2	12 41.93	3 52.077	+1 8.45	+ 12.736	
		28.1	. .	52.5					
	Io	32.2	40.6	48.5	22 13 40.38	2 52.107			
Oct. 2	Weisse I, 22 . .	53.9	2.5	10.9	21 5 2.43	4 40.921	+1 32.84	+ 10.131	Corr. Chron. + 0 m. 13 s. .38
	Io	26.8	35.4	43.6	6 35.27	3 43.821			
F.									h. m. s. α, o ′ ″ δ
	Weisse I, 22 . .	37.8	46.3	54.2	7 46.10	4 41.000	1 32.73	10.018	Weisse I, 22, 1 3 34.68 +10 26 3.94
	Io	10.5	18.8	27.2	9 18.83	3 44.013			
									Io—Weisse I, 22,
	Wiesse I, 22 . .	5.6	14.1	22.3	10 14.00	4 41.095	1 32.63	9.894	Δ α m. s. Δ δ ′ ″
	Io	38.3	46.8	54.8	11 46.63	3 44.232			h. m. s.
									Sid. T. 21 38 36.93 + 1 31.71 + 2 20.49
	Weisse I, 22 . .	40.4	48.8	57.2	12 48.80	4 41.193	1 32.57	9.830	Δ ρ .00 + .07
	Io	13.1	21.3	29.7	14 21.37	3 44.394			p — .28 + 3.51
	Weisse I, 22 . .	58.4	7.0	15.3	19 6.90	4 41.427	1 32.30	9.520	
	Io	30.8	. .	47.6	20 39.20	3 44.938			
	Weisse I, 22 . .	18.4	16.8	35.4	22 26.87	4 41.612	1 32.26	9.684	
	Io	50.8	59.2	7.4	23 59.13	3 44.959			
	Weisse I, 22 . .	56.3	4.7	13.0	25 4.67	4 41.695	1 31.96	9.495	
	Io	28.5	36.6	44.8	26 36.63	3 45.231			
	Weisse I, 22 . .	42.9	51.3	59.5	27 51.23	4 41.729	1 32.07	9.346	
	Io	15.0	23.3	31.6	29 23.30	3 45.414			
	Weisse I, 22 . .	33.5	41.8	50.2	30 41.83	4 41.261	1 31.84	9.253	
	Io	5.5	13.6	21.9	32 13.67	3 45.639			
	Weisse I, 22 . .	18.5	16.9	25.3	38 26.90	4 42.223	1 31.67	9.206	
	Io	50.2	58.7	6.8	39 58.57	3 46.048			
	Weisse I, 22 . .	11.6	19.8	28.4	41 19.93	4 42.359	1 31.60	9.167	
	Io	43.2	51.7	59.7	42 51.53	3 46.223			
	Weisse I, 22 . .	54.8	3.2	11.6	44 3.20	4 42.633	1 31.40	9.215	
	Io	26.4	34.6	42.8	45 34.60	3 46.449			
	Weisse I, 22 . .	29.2	37.4	45.8	46 37.47	4 42.482	1 31.26	8.945	
	Io	0.5	8.8	16.9	48 8.73	3 46.568			
	Weisse I, 22 . .	26.8	35.5	43.7	49 35.33	4 42.475	1 31.30	8.774	
	Io	58.4	6.7	14.8	51 6.63	3 46.732			
	Weisse I, 22 . .	56.5	4.9	13.3	52 4.90	4 42.542	1 31.13	8.643	
	Io	27.6	36.2	44.3	53 36.03	3 46.930			
	Weisse I, 22 . .	8.3	16.7	25.3	55 16.77	4 42.642	+1 31.03	+ 8.574	
	Io	39.5	47.8	56.1	21 56 47.80	3 47.099			

(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 2	Weisse I, 22 . .	56.3	4.9	13.1	21 58 4.77	4 43.037	+1 31.00	+ 8.753	
	Io	27.7	35.7	43.9	21 59 35.77	3 47.315			
F.									
	Weisse I, 22 . .	31.4	39.8	48.2	22 0 39.80	4 42.840	1 30.97	8.293	
	Io	2.5	10.8	19.0	2 10.77	3 47.578			
	Weisse I, 22 . .	30.3	38.8	47.2	3 38.77	4 42.962	1 31.03	8.395	
	Io	1.5	9.8	18.1	5 9.80	3 47.598			
	Weisse I, 22 . .	7.8	16.2	24.4	6 16.13	4 43.050	+1 30.70	+ 8.055	
	Io	38.6	46.8	55.1	22 7 46.83	3 48.026			
Oct. 7		37.0	. .	1.6					m. s. Corr. Chron. + 0 24.30
	Io	40.9	49.2	57.2	22 15 49.18	4 40.124			α δ
H.		42.1	. .	6.7					h. m. s. ° ′ ″
	Weisse I, 39 . .	46.1	54.2	2.4	18 54.30	3 37.360	—3 5.12	— 15.795	Weisse I, 39, 1 4 28.82 + 9 34 47.01
		37.2	. .	1.9					Io—Weisse I, 39,
	Io	41.2	49.4	57.9	20 49.52	4 40.394			Δ α Δ δ
		42.7	. .	7.0					h. m. s. m. s. ′ ″
	Weisse I, 39 . .	46.6	54.8	3.1	23 54.84	3 37.478	3 5.32	15.947	Sid. T. 22 29 34.56 — 3 5.61 — 4 9.02
		34.9	. .	59.6					Δ ρ .00 — .10
	Io	38.9	47.3	55.3	25 47.20	4 40.112			p — .21 + 3.36
		40.4	. .	5.0					
	Weisse I, 39 . .	44.3	52.7	1.0	28 52.68	3 36.972	3 5.48	16.171	
		3.2	. .	27.9					
	Io	7.2	15.5	23.8	32 15.52	4 40.410			
		9.0	.	33.6					
	Weisse I, 39 . .	13.0	21.2	29.4	35 21.24	3 37.114	3 5.72	16.327	
		5.4	. .	30.0					
	Io	9.3	17.8	26.1	37 17.72	4 40.670			
		11.3	. .	36.0					
	Weisse I, 39 . .	15.3	23.6	31.9	40 23.62	3 37.246	3 5.90	16.455	
		50.0	. .	14.8					
	Io	54.1	2.4	10.7	43 2.40	4 42.856			
		56.2	. .	20.8					
	Weisse I, 39 . .	0.2	8.5	16.8	22 46 8.50	3 39.167	—3 6.10	— 16.720	
Oct. 9	Weisse 0, 1034 . .	45.5	53.8	1.9	21 48 53.73	2 40.172	+0 28.07	— 16.262	m. s. Corr. Chron. + 0 25.05
	Io	13.7	21.5	30.2	49 21.80	3 43.668			α δ
F.	Santini 64 . . .	40.5	48.7	57.2	50 48.80	2 41.326	—1 27.00	15.108	h. m. s. ° ′ ″
	Weisse 0, 1034 . .	48.1	56.5	4.6	54 56.40	2 40.290	+0 27.80	16.678	Weisse 0, 1034, 0 59 27.56 + 9 11 52.34
	Io	. .	24.3	32.4	55 24.20	3 44.202			Santini 64, 1 1 22.52 + 9 11 32.54
	Weisse 0, 1034 . .	22.6	30.7	39.0	57 30.77	2 40.501	+0 27.85	16.655	Io—Weisse 0, 1034,
	Io	. .	58.5	6.9	57 58.62	3 44.390			Δ α Δ δ
	Santini 64 . . .	. .	25.6	34.0	21 59 25.72	2 41.610	—1 27.10	15.546	h. m. s. m. s. ′ ″
									Sid. T. 22 15 47.28 + 0 27.20 — 4 24.63
	Weisse 0, 1034 . .	52.1	0.3	8.5	22 10 0.30	2 40.542	+0 27.55	16.996	Δ ρ .00 — .12
	Io	19.5	27.8	36.2	10 27.83	3 44.772			p — .22 + 3.44
									Io—Santini 64,
	Weisse 0, 1034 . .	19.8	28.2	36.6	12 28.20	2 40.622	0 27.43	17.097	h. m. s.
	Io	47.3	56.8	3.8	12 55.63	3 44.953			Sid. T. 22 6 48.23 — 1 27.51 — 4 0.29
									Δ ρ .00 — .10
	Weisse 0, 1034 . .	39.8	48.2	56.4	15 48.13	2 40.752	0 27.15	17.244	p — .24 + 3.46
	Io	. .	15.3	23.6	16 15.28	3 45.230			
	Weisse 0, 1034 . .	8.4	16.8	25.1	18 16.77	2 40.880	0 27.16	17.308	
	Io	35.6	43.9	52.3	18 43.93	3 45.422			
	Weisse 0, 1034 . .	0.6	8.7	17.3	20 8.87	2 40.687	0 27.06	17.682	
	Io	28.0	35.8	44.0	20 35.93	3 45.603			
	Weisse 0, 1034 . .	58.5	6.6	15.2	21 6.77	2 40.875	+0 26.90	— 17.502	
	Io	. .	33.8	41.8	22 21 33.67	3 45.610			

(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 9	Weisse 0, 1034 . .	55.0	3.1	11.5	22 26 3.20	2 40.849	+0 26.83	— 17.637	
F.	Io	21.8	30.0	38.3	26 30.03	3 45.720			
	Weisse 0, 1034 . .	39.6	48.2	56.3	27 48.03	2 40.938	0 26.55	17.693	
	Io	. .	24.8	22.8	28 24.58	3 45.865			
	Weisse 0, 1034 . .	26.5	34.5	42.8	29 34.63	2 41.018	0 26.70	17.848	
	Io	. .	1.3	9.4	30 1.33	3 46.100			
	Weisse 0, 1034 . .	14.2	22.6	30.8	31 22.53	2 41.087	+0 26.60	17.705	
		. .	49.2	57.4	31 49.13	3 46.020			
	Santini 64 . . .	9.4	17.5	25.8	22 33 17.57	2 42.440	—1 28.44	— 16.346	
									Corr. Chron. m. s. + 0 28.70
									α h. m. s. 0 57 39.85 δ ° ′ ″ + 8 52 4.92
Oct. 10		0.6	. .	25.1					
H.	Weisse 0, 997 . .	4.7	12.7	21.0	22 28 12.82	4 34.433	+1 30.06	+ 14.392	Weisse 0, 997,
		30.7	. .	55.2					
	Io	. .	42.8	51.0	29 42.88	2 45.838			Io—Weisse 0, 997,
		17.1	. .	41.5					Δ α m. s. Δ δ ′ ″
	Weisse 0, 997 . .	21.1	29.3	37.5	31 29.30	4 34.385	1 30.24	14.242	Sid. T. 22 47 18.71 + 1 29.75 + 3 32.05
		47.2	. .	11.9					Δ ρ .00 + .08
	Io	51.2	59.6	7.8	32 59.54	2 45.940			p — .19 + 3.36
		26.0	. .	50.6					
	Weisse 0, 997 . .	30.1	38.4	46.3	37 38.28	4 34.506	1 29.92	13.976	
		56.0	. .	20.5					
	Io	0.0	8.2	16.3	39 8.20	2 46.327			
		23.6	. .	48.2					
	Weisse 0, 997 . .	27.7	35.9	44.0	40 35.88	4 34.653	1 29.96	14.044	
		53.5	. .	18.2					
	Io	57.6	5.8	14.1	42 5.84	2 46.406			
		17.2	. .	41.8					
	Weisse 0, 997 . .	21.1	29.3	37.5	43 29.38	4 34.730	1 29.74	13.864	
		46.9	. .	11.5					
	Io	50.9	59.2	7.1	44 59.12	3 33.897			
		36.2	. .	0.7					
	Weisse 0, 997 . .	40.0	48.4	56.4	47 48.34	4 34.783	1 29.64	13.814	
		5.8	. .	30.2					
	Io	9.8	18.0	26.1	49 17.98	2 46.766			
		50.8	. .	15.1					
	Weisse 0, 997 . .	54.8	3.0	11.1	51 2.96	4 34.774	1 29.64	13.731	
		20.2	. .	44.9					
	Io	24.3	32.7	40.9	52 32.60	2 46.840			
		35.9	. .	0.2					
	Weisse 0, 997 . .	39.8	48.1	56.1	54 48.02	4 34.873	1 29.46	13.455	
		5.3	. .	29.8					
	Io	9.3	17.4	25.6	56 17.48	2 47.215			
		21.8	. .	46.3					
	Weisse 0, 997 . .	25.7	34.0	42.2	57 34.00	4 34.880	1 29.42	13.327	
		51.1	. .	15.8					
	Io	55.1	3.4	11.7	22 59 3.42	2 47.350			
		31.6	. .	55.9					
	Weisse 0, 997 . .	35.3	43.7	51.7	23 0 43.64	4 35.064	+1 29.42	+ 13.411	
		0.9	. .	25.3					
	Io	4.9	13.0	21.2	23 2 13.06	2 47.450			
Oct. 11	Weisse 0, 997 . .	6.2	14.6	22.6	21 8 14.47	2 43.149	+0 49.30	— 29.068	
F.	Io	55.5	3.8	12.0	9 3.77	4 46.420			
	Weisse 0, 997 . .	45.4	53.6	1.8	10 53.60	2 43.472	0 48.93	28.864	
	Io	34.3	42.4	50.9	11 42.53	4 46.539			
	Weisse 0, 997 . .	45.5	53.6	1.8	45 53.63	2 44.766	+0 48.00	— 30.119	
	Io	33.5	. .	.	21 46 41.63	4 49.088			

(Continued)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Oct. 11	Weisse 0, 997 . .	48.1	56.2	4.3	22 8 56.20	2 45.605	+0 47.17	— 30.677	Corr. Chron. + 0 29.45
	Io	35.2	43.3	51.6	9 43.37	4 50.485			α δ
F.									h. m. s. ° ′ ″
	Weisse 0, 997 . .	25.2	33.4	41.4	11 33.33	2 45.670	0 46.97	30.319	Weisse 0, 997, 0 57 39.86 + 8 52 4.[illegible]
	Io	12.0	20.4	28.5	12 20.30	4 50.692			Io—Weisse 0, 997,
	Weisse 0, 997 . .	33.1	41.4	49.4	13 41.30	2 45.655	0 46.87	30.898	Δ α Δ δ
	Io	19.8	28.4	36.3	14 28.17	4 50.756			h. m. s. m. s. ′ ″
	Weisse 0, 997 . .	42.8	50.8	59.3	17 50.97	2 45.870	0 47.00	30.832	Sid. T. 22 8 18.3 + 0 47.28 — 7 50.57
	Io	29.7	38.0	46.2	18 37.97	4 50.905			Δ ρ .00 — .21
									ρ — .23 + 3.46
	Weisse 0, 997 . .	54.3	2.6	10.8	20 2.57	3 33.070	0 47.00	31.149	
	Io	41.5	49.6	57.6	20 49.57	5 34.171			
	Weisse 0, 997 . .	58.9	6.8	15.1	22 6.93	3 33.101	0 46.87	31.265	
	Io	45.6	53.9	1.9	22 53.80	5 34.318			
	Weisse 0, 997 . .	37.5	45.8	53.8	24 45.70	3 33.007	0 46.63	31.341	
	Io	24.1	32.4	40.5	25 32.33	5 34.300			
	Weisse 0, 997 . .	2.8	11.1	19.1	27 11.00	3 33.166	0 46.67	31.244	
	Io	49.6	57.8	5.6	27 57.67	5 34.362			
	Weisse 0, 997 . .	56.5	4.6	12.8	29 4.63	3 33.361	0 46.64	31.307	
	Io	43.1	51.4	59.3	29 51.27	5 34.620			
	Weisse 0, 997 . .	58.2	6.3	14.6	31 6.37	3 33.373	+0 46.63	— 31.269	
	Io	44.7	53.1	1.2	22 31 53.00	5 34.594			
		46.7	. .	11.2					
Oct. 12	Santini 58 . . .	50.7	59.0	7.2	22 23 58.96	4 33.020	+1 58.50	+ 30.094	Corr. Chron. + 0 30.50
		45.2	. .	9.9					α δ
H.	Io	49.1	57.4	5.7	25 57.46	1 45.876			h. m. s. ° ′ ″
		29.0	. .	53.4					Santini 58, 0 55 43.05 + 8 24 51.34
	Santini 58 . . .	32.9	41.2	49.3	27 41.16	4 33.054	1 58.48	29.975	Io—Santini 58,
		27.3	. .	52.0					Δ α Δ δ
	Io	31.3	39.7	47.9	29 39.64	1 46.029			h. m. s. m. s. ′ ″
		44.3	. .	8.7					Sid. T. 22 42 34.67 + 1 58.08 + 7 34.02
	Santini 58 . . .	48.2	56.6	4.7	31 56.50	4 33.140	1 58.35	29.755	Δ ρ .00 + .19
		42.6	. .	7.2					ρ — .19 + 3.41
	Io	46.6	. .	3.0	33 54.85	1 46.335			
		23.0	. .	47.4					
	Santini 58 . . .	27.0	35.2	43.1	35 35.14	4 33.262	1 58.24	29.761	
		21.1	. .	45.7					
	Io	25.0	33.4	41.7	37 33.38	1 46.451			
		13.0	. .	37.5					
	Santini 58 . . .	17.0	25.3	33.3	40 25.22	4 33.420	1 58.06	29.574	
		11.0	. .	35.6					
	Io	15.1	23.3	31.4	42 23.28	1 46.796			
		58.6	. .	23.0					
	Santini 58 . . .	2.4	10.8	18.9	44 10.74	4 33.498	1 58.00	29.594	
		56.5	. .	21.0					
	Io	0.3	8.9	17.0	46 8.74	1 46.854			
		36.1	. .	0.6					
	Santini 58 . . .	40.0	48.3	56.5	47 48.30	4 33.486	1 57.92	29.382	
		34.0	. .	58.5					
	Io	38.0	46.2	. .	49 46.22	1 47.054			
		7.7	. .	32.1					
	Santini 58 . . .	11.6	20.0	28.2	52 19.92	4 33.531	1 57.64	29.214	
		5.3	. .	29.8					
	Io	9.2	17.7	25.8	54 17.56	1 47.267			
		46.7	. .	11.2					
	Santini 58 . . .	50.6	59.0	7.1	56 58.92	4 33.732	+1 57.50	+ 29.075	
		44.2	. .	8.6					
	Io	48.1	56.6	4.6	22 58 56.42	1 47.607			

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 16	Weisse 0, 925 . .	38.3	46.8	55.0	23 30 46.70	1 39.742	+1 5.10	— 50.396	Corr. Chron. + 0 40.22
F.	Io	43.6	51.7	0.1	31 51.80	5 30.172			α δ
									h. m. s. ° ′ ″
	Weisse 0, 925 . .	2.8	10.9	19.2	33 10.97	1 39.841	1 5.30	50.455	Weisse 0, 925, 0 53 45.71 + 7 58 50.59
	Io	8.2	16.3	24.3	34 16.27	5 30.330			
									Io—Weisse 0, 925,
	Weisse 0, 925 . .	40.9	49.2	57.2	35 49.10	1 39.778	1 5.07	50.599	Δ α Δ δ
	Io	45.8	54.4	2.3	36 54.17	5 30.411			h. m. s. m. s. ′ ″
									Sid. T. 23 43 28.72 + 1 4.94 —12 56.88
	Weisse 0, 925 . .	8.9	17.0	25.3	38 17.07	1 39.872	1 5.03	50.454	Δ ρ .00 — .30
	Io	13.8	22.3	30.2	39 22.10	5 30.360			ρ — .10 + 3.35
	Weisse 0, 925 . .	33.5	41.8	49.8	40 41.70	1 39.828	1 5.13	50.687	
	Io	38.7	46.9	54.9	41 46.83	5 30.549			
	Weisse 0, 925 . .	48.9	57.2	5.3	43 57.13	1 39.888	1 4.70	50.801	
	Io	53.7	1.9	9.9	45 1.83	5 30.723			
	Weisse 0, 925 . .	57.3	5.2	13.3	47 5.27	1 40.012	1 4.86	50.719	
	Io	1.8	10.4	18.2	48 10.13	5 30.765			
	Weisse 0, 925 . .	20.3	28.4	36.5	51 28.40	1 40.260	1 4.77	50.768	
	Io	24.9	33.3	41.3	52 33.17	5 31.062			
	Weisse 0, 925 . .	7.5	15.8	23.8	54 15.70	1 40.172	+1 4.53	— 50.999	
	Io	12.1	20.3	28.3	23 55 20.23	5 31.205			
									m. s.
Oct. 19		8.0	. .	32.4					Corr. Chron. + 0 45.10
	Io	11.8	20.1	28.5	22 25 20.16	3 45.563			α δ
H.		30.8	. .	55.2					h. m. s. ° ′ ″
	Piazzi 256 . . .	34.8	42.8	51.0	26 42.92	2 34.330	—1 22.76	— 23.999	Piazzi 256, 0 54 15.19 + 7 18 50.45
		11.1	. .	35.7					
	Io	15.3	23.3	31.4	29 23.36	3 45.976			Io—Piazzi 256,
		34.9	. .	58.6					Δ α Δ δ
	Piazzi 256 . . .	38.0	45.9	54.6	30 46.22	2 34.224	1 22.86	24.518	h. m. s. m. s. ′ ″
		35.5	. .	0.0					Sid. T. 22 41 54.45 — 1 23.23 — 6 15.79
	Io	39.5	47.8	55.9	33 47.74	3 45.987			Δ ρ .00 — .17
		58.7	. .	23.0					ρ — .18 + 3.45
	Piazzi 256 . . .	2.6	10.9	19.0	35 10.84	2 34.558	1 23.10	24.195	
		25.1	. .	49.4					
	Io	29.0	37.2	45.3	36 37.20	3 46.114			
		48.1	. .	12.4					
	Piazzi 256 . . .	51.9	0.2	8.3	38 0.18	2 34.535	1 22.98	24.345	
		6.9	. .	31.3					
	Io	10.6	19.0	27.1	40 18.98	3 46.340			
		30.0	. .	54.6					
	Piazzi 256 . . .	33.9	42.2	50.3	41 42.20	2 34.674	1 23.22	24.432	
		1.1	. .	25.3					
	Io	5.0	13.1	21.3	43 13.16	3 46.452			
		24.2	. .	48.9					
	Piazzi 256 . . .	28.2	36.5	44.7	44 36.50	2 34.707	1 23.34	24.511	
		18.5	. .	43.2					
	Io	22.5	30.9	39.0	46 30.82	3 46.656			
		41.9	. .	6.2					
	Piazzi 256 . . .	45.9	54.0	2.2	47 54.04	2 34.790	1 23.22	24.632	
		7.8	. .	32.2					
	Io	11.8	19.9	28.0	49 19.94	3 46.742			
		31.4	. .	55.8					
	Piazzi 256 . . .	35.2	43.4	51.5	50 43.46	2 34.855	1 23.52	24.653	
		53.4	. .	17.8					
	Io	57.3	5.6	13.5	52 5.52	3 46.960			
		17.2	. .	41.6					
	Piazzi 256 . . .	21.0	29.2	37.4	53 29.28	2 34.884	1 23.76	24.842	
		44.4	. .	8.8					
	Io	48.4	56.6	4.9	54 56.62	3 47.000			
		8.0	. .	32.4					
	Piazzi 256 . . .	11.9	20.2	28.3	22 56 20.16	2 34.872	—1 23.54	— 24.894	

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 20	Weisse 0, 878 . .	50.4	58.6	6.9	21 51 58.63	4 45.353			Corr. Chron. + 0 49.70
	Weisse 0, 891 . .	51.3	59.6	7.6	52 59.50	2 45.169	+0 12.07	+ 8.456	α δ
F.	Io	3.5	11.6	19.6	53 11.57	2 36.713			h. m. s. ° ′ ″
									Weisse 0, 891, 0 52 2.46 + 6 59 45.48
	Weisse 0, 891 . .	42.1	50.3	58.7	56 50.37	2 45.379	0 12.17	8.220	
	Io	54.3	2.5	10.7	21 57 2.50	2 37.159			Io—Weisse 0, 891,
									Δ α Δ δ
	Weisse 0, 891 . .	37.2	45.6	53.7	22 0 45.50	2 45.472	0 11.97	8.104	h. m. s. m. s. ′ ″
	Io	49.3	57.5	5.6	0 57.47	2 37.368			Sid. T. 22 25 21.92 + 0 11.29 + 1 54.97
									Δ ρ .00 + .16
	Weisse 0, 891 . .	40.2	48.6	56.8	2 48 53	2 45.633	0 11.97	8.152	p — .20 + 3.43
	Io	52.3	0.5	8.7	3 0.50	2 37.481			
	Weisse 0, 891 . .	31.6	39.8	47.9	5 39.77	3 32.778	0 11.83	7.716	
	Io	43.5	51.7	59.6	5 51.60	2 37.828			
	Weisse 0, 891 . .	59.2	7.3	15.3	9 7.27	3 32.973	0 11.80	7.812	
	Io	10.8	19.1	27.3	9 19.07	2 37.927			
	Weisse 0, 891 . .	10.7	18.8	27.2	11 18.90	3 33.029	0 11.80	7.800	
	Io	. .	30.7	. .	11 30.70	2 37.995			
	Weisse 0, 891 . .	9.0	17.3	25.5	16 17.27	3 33.104	0 11.43	7.511	
	Io	20.5	28.8	36.8	16 28.70	2 38.359			
	Weisse 0, 891 . .	34.2	42.5	50.6	20 42.43	3 33.293	0 11.34	7.753	
	Io	45.6	53.7	2.0	20 53.77	2 38.306			
	Weisse 0, 891 . .	32.4	40.7	48.7	27 40.60	3 33.161	0 11.30	7.343	
	Io	43.7	51.9	0.1	27 51.90	2 38.584			
	Weisse 0, 891 . .	0.5	8.8	16.9	31 8.73	3 33.314	0 11.04	7.262	
	Io	11.6	19.8	27.9	31 19.77	2 38.818			
	Weisse 0, 891 . .	46.3	54.5	2.6	33 54.47	3 33.460	0 11.00	7.281	
	Io	57.3	5.5	13.6	34 5.47	2 38.945			
	Weisse 0, 891 . .	3.4	11.6	19.7	36 11.57	3 33.353	0 10.90	7.057	
	Io	14.3	22.5	30.6	36 22.47	2 39.062			
	Weisse 0, 891 . .	56.4	4.8	12.8	38 4.67	2 46.199	0 10.90	7.180	
	Io	7.4	15.6	23.7	38 15.57	2 39.019			
	Weisse 0, 891 . .	58.6	6.8	14.8	42 6.73	2 46.263	0 10.70	7.112	
	Io	9.2	17.5	25.6	42 17.43	2 39.151			
	Weisse 0, 891 . .	0.4	8.7	16.8	46 8.63	2 46.393	0 10.64	7.098	
	Io	11.1	19.3	27.4	46 19.27	2 39.295			
	Weisse 0, 891 . .	53.6	1.8	9.9	48 1.77	2 46.493	0 10.50	7.264	
	Io	4.1	12.3	20.5	48 12.27	2 39.229			
	Weisse 0, 891 . .	22.4	30.8	38.8	50 30.67	2 46.519	0 10.58	6.725	
	Io	32.9	. .	49.6	50 41.25	2 39.794			
	Weisse 0, 891 . .	12.3	20.5	28.8	52 20.53	2 46.450	+0 10.44	+ 6.647	
	Io	22.8	30.9	39.2	22 52 30.97	2 39.803			
									m. s.
Oct. 21		25.4	. .	49.6					Corr. Chron. + 0 52.50
	Weisse 0, 878 . .	29.2	37.5	45.7	21 51 37.48	3 33.282	+0 35.38	— 8.871	α δ
H.		0.8	. .	25.0					h. m. s. ° ′ ″
	Io	4.7	12.8	21.0	52 12.86	3 42.153			Weisse 0, 878, 0 51 1.67 + 6 53 15.61
		41.7	. .	6.0					
	Weisse 0, 878 . .	45.4	53.6	1.8	53 53.70	3 33.312	0 35.28	9.010	Io—Weisse 0, 878,
		16.7	. .	41.4					Δ α Δ δ
	Io	20.7	28.9	37.2	54 28.98	3 42.323			h. m. s. m. s. ′ ″
									Sid. T. 22 8 48.77 + 0 34.90 — 2 22.29
		52.0	. .	16.3					Δ ρ .00 — .06
	Weisse 0, 878 . .	55.9	4.2	. .	57 4.14	3 33.435	+0 35.00	— 9.003	p — .22 + 3.47
		27.0	. .	51.4					
	Io	31.1	39.2	47.0	21 57 39.14	3 42.438			

(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. Oct. 21		22.6	. .	47.0					
H.	Weisse 0, 878 . .	26.4	34.6	. .	22 0 34.70	3 33.325	+0 35.18	— 9.039	
		57.8	. .	22.1					
	Io	1.6	9.9	18.0	1 9.88	3 42.364			
		15.0	. .	39.3					
	Weisse 0, 878 . .	18.8	27.3	35.2	3 27.12	3 33.394	0 35.04	9.023	
		50.0	. .	14.3					
	Io	54.0	2.2	10.3	4 2.16	3 42.417			
		33.3	. .	57.4					
	Weisse 0, 878 . .	37.2	45.4	53.4	12 45.34	3 33.668	0 34.70	9.424	
		7.8	. .	32.2					
	Io	11.9	20.1	28.2	13 20.04	3 43.092			
		59.5	. .	23.9					
	Weisse 0, 878 . .	3.5	11.7	19.7	15 11.66	3 33.617	0 34.70	9.492	
		34.3	. .	58.6					
	Io	38.2	46.2	54.5	15 46.36	3 43.109			
		2.6	. .	26.9					
	Weisse 0, 878 . .	6.7	. .	23.0	17 14.80	3 33.684	0 34.72	9.533	
		37.3	. .	1.9					
	Io	41.3	49.4	57.7	17 49.52	3 43.217			
		26.0	. .	50.0					
	Weisse 0, 878 . .	30.0	38.2	46.1	19 38.06	3 33.723	0 34.52	9.517	
		0.5	. .	24.9					
	Io	4.3	12.5	20.7	20 12.58	3 43.240			
		54.9	. .	19.0					
	Weisse 0, 878 . .	58.4	6.4	14.8	22 6.70	3 33.678	+0 34.50	— 9.862	
		29.0	. .	53.2					
	Io	33.2	41.3	49.3	22 22 41.20	3 43.540			
		58.1	. .	22.7					
Oct 24									m. s.
	Weisse 0, 829 . .	2.2	10.5	18.7	22 1 10.44	4 43.577	+1 25.78	+ 44.217	Corr. Chron. + 0 59.70
H.		23.9	. .	48.7					α δ
	Io	28.1	36.1	44.3	2 36.22	1 42.310			h. m. s. ° ′ ″
		30.8	. .	55.1					Weisse 0, 829, 0 48 23.74 + 6 7 43.06
	Weisse 0, 829 . .	34.6	42.9	51.0	4 42.88	4 46.736	1 25.86	43.972	Io—Weisse 0, 829,
		56.7	. .	21.0					Δ α Δ δ
	Io	0.5	8.7	16.8	6 8.74	1 45.714			h. m. s. m. s. ′ ″
		22.0	. .	46.4					Sid. T. 22 19 30.87 + 1 25.50 +11 10.40
	Weisse 0, 829 . .	26.0	34.2	42.4	8 34.20	4 46.793	1 25.72	43.878	Δ ρ + .01 + .30
		47.8	. .	12.1					ρ — .20 + 3.47
	Io	51.7	59.8	8.2	9 59.92	1 45.865			
		45.8	. .	10.0					
	Weisse 0, 829 . .	49.6	57.9	6.1	11 57.88	4 46.943	1 25.48	43.933	
		11.2	. .	35.6					
	Io	15.0	23.4	31.6	13 23.36	1 45.960			
		42.2	. .	6.8					
	Weisse 0, 829 . .	46.1	54.4	2.6	14 54.42	4 46.936	1 25.64	43.699	
		7.9	. .	32.3					
	Io	11.8	20.1	28.2	16 20.06	1 46.187			
		56.6	. .	21.0					
	Weisse 0, 829 . .	0.4	8.8	16.9	19 8.74	4 47.013	1 25.46	43.666	
		22.1	. .	46.3					
	Io	26.1	34.2	42.3	20 34.20	1 46.297			
		44.0	. .	8.4					
	Weisse 0, 829 . .	48.0	56.2	4.2	21 56.16	4 47.133	1 25.46	43.602	
		9.6	. .	33.8					
	Io	13.3	21.6	29.8	23 21.62	1 46.481			
		4.7	. .	29.4					
	Weisse 0, 829 . .	8.9	17.1	25.3	26 17.08	4 47.196	+1 25.36	+ 43.384	
		30.3	. .	54.5					
	Io	34.1	42.6	50.7	22 28 42.44	1 46.762			

(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 24		58.5	. .	23.0					
	Weisse 0, 829 . .	2.5	10.8	19.0	22 29 10.76	4 47.240	+1 25.18	+ 43.435	
H.		23.8	. .	48.1					
	Io	27.8	36.0	44.0	30 35.94	1 46.755			
		52.0	. .	16.3					
	Weisse 0, 829 . .	55.9	4.1	12.2	32 4.10	4 47.303	+1 25.06	+ 43.315	
		17.0	. .	41.4					
	Io	21.1	29.1	37.2	22 33 29.16	1 46.938			
Oct. 25	Weisse 0, 829 . .	43.6	51.9	0.3	22 27 51.93	3 35.809	+0 51.90	+ 3.121	m. s. Corr. Chron. + 1 0.60
	Io	. .	43.8	52.2	28 43.83	3 32.688			α δ
F.									h. m. s. ° ′ ″
	Weisse 0, 829 . .	6.7	14.7	22.9	32 14.77	3 35.903	0 51.70	2.913	Weisse 0, 829, 0 48 23.74 + 6 7 43.07
	Io	58.3	6.7	14.4	33 6.47	3 32.990			
									Io—Weisse 0, 829,
	Weisse 0, 829 . .	0.8	9.1	17.3	34 9.07	3 35.999	0 51.56	2.869	Δ α Δ δ
	Io	52.4	0.7	8.8	35 0.63	3 33.130			h. m. s. m. s. ′ ″
									Sid. T. 22 44 0.19 + 0 51.50 + 0 39.75
	Weisse 0, 829 . .	47.4	55.6	3.7	35 55.57	3 35.908	0 51.66	2.563	Δ ρ .00 + .02
	Io	38.9	47.4	55.4	36 47.23	3 33.345			p — .17 + 3.44
	Weisse 0, 829 . .	53.3	1.3	9.5	39 1.37	3 36.128	0 51.50	2.649	
	Io	44.9	52.8	0.9	39 52.87	3 33.479			
	Weisse 0, 829 . .	0.8	9.3	17.3	41 9.13	3 36.135	0 51.50	2.695	
	Io	52.5	0.5	8.9	42 0.63	3 33.440			
	Weisse 0. 829 . .	10.2	18.4	26.6	43 18.40	3 36.153	0 51.40	2.591	
	Io	1.8	9.8	17.8	44 9.80	3 33.562			
	Weisse 0, 829 . .	33.5	41.6	49.6	45 41.57	3 36.182	0 51.43	2.478	
	Io	24.8	33.1	41.1	46 33.00	3 33.704			
	Weisse 0, 829 . .	17.4	25.5	33.8	49 25.57	3 36.158	0 51.36	2.088	
	Io	8.6	17.1	25.1	50 16.93	3 34.070			
	Weisse 0, 883 . .	17.2	25.1	33.3	52 25.20	3 37.951			
	Weisse 0, 829 . .	20.9	29.8	38.2	54 29.63	3 36.483	0 51.40	2.432	
	Io	12.8	21.1	29.2	55 21.03	3 34.051			
	Weisse 0. 829 . .	3.8	11.9	20.3	56 12.00	3 36.599	+0 51.13	+ 2.109	
	Io	54.8	3.3	11.3	22 57 3.13	3 34.490			
Oct. 26	Weisse 0, 829 . .	30.3	38.5	46.7	21 49 38.50	1 39.985	+0 20.47	— 35.989	m. s. Corr. Chron. + 1 2.90
	Io	50.8	59.0	7.1	49 58.97	4 33.024			α δ
H.									h. m. s. ° ′ ″
	Weisse 0, 829 . .	39.9	48.2	56.3	53 48.13	1 40.133	0 20.44	35.900	Weisse 0, 829, 0 48 23.74 + 6 7 43.07
	Io	0.6	8.6	16.5	54 8.57	4 33.083			
									Io—Weisse 0, 829,
	Weisse 0, 829 . .	55.3	3.7	11.7	55 3.57	1 40.104	0 20.30	36.124	Δ α Δ δ
	Io	15.7	23.9	32.0	55 23.87	4 33.278			h. m. s. m. s. ′ ″
									Sid. T. 21 58 6.43 + 0 20.29 — 9 13.78
	Weisse 0, 829 . .	0.2	8.7	16.7	58 8.53	1 40.325	0 20.27	36.150	Δ ρ — .01 — .28
	Io	20.6	28.8	37.0	21 58 28.80	4 33.525			p — .22 + 3.49
	Weisse 0, 829 . .	49.2	57.5	5.6	22 6 57.43	1 40.540	+0 19.97	— 36.367	
	Io	9.2	17.5	25.5	22 7 17.40	4 33.957			
Oct. 28		29.6	. .	53.8					
	Weisse 0, 787 . .	33.3	41.7	49.8	23 17 41.64	1 34.250	+1 55.76	— 71.186	
H.		25.1	. .	49.7					
	Io	29.1	37.5	45.6	19 37.40	5 45.470			
		19.9	. .	44.3					
	Weisse 0, 787 . .	23.8	32.1	40.1	21 32.04	1 34.396	+1 55.60	— 71.394	
		15.5	. .	39.9					
	Io	19.5	27.5	35.8	23 23 27.64	5 45.824			

(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 28		30.4	. .	55.0					Corr. Chron. + 1 5.70
	Weisse 0, 787 . .	34.5	42.8	51.0	23 25 42.74	1 34.480	+1 55.52	− 71.584	α δ
H.		26.2	. .	50.4					h. m. s. ° ′ ″
	Io	30.2	38.1	46.4	27 38.26	5 46.098			Weisse 0, 787, 0 45 45.56 + 5 56 17.54
		6.5	. .	31.0					Io—Weisse 0, 787,
	Weisse 0, 787 . .	10.4	18.7	27.0	29 18.72	1 34.473	1 55.40	71.669	Δ α Δ δ
		2.0	. .	26.3					h. m. s. m. s. ′ ″
	Io	6.0	14.0	22.3	31 14.12	5 46.176			Sid. T. 23 30 40.71 + 1 55.50 −18 17.67
									Δ ρ .00 − .45
		33.6	. .	58.0					p − .11 + 3.42
	Weisse 0, 787 . .	37.4	45.7	53.9	33 45.72	1 34.605	1 55.38	71.706	
		28.9	. .	53.4					
	Io	33.0	41.0	49.2	35 41.10	5 46.345			
		44.0	. .	8.4					
	Weisse 0, 787 . .	48.0	56.2	4.3	37 56.18	1 34.674	+1 55.32	− 71.877	
		39.2	. .	3.8					
	Io	43.2	51.5	59.8	23 39 51.50	5 46.585			

		Sidereal time.	Position Circle.		P	Δ mic.	
		h. m. s.	° ′		° ′		
		. . .	. . .	4 37.020			
Oct. 30	Weisse 0, 804 . .						Corr. Chron. + 1 11.3
	Io	22 16 10	300 19.5	3 33.859	22 2.5	16.192	α δ
F.							h. m. s. ° ′ ″
	Weisse 0, 804 . .	. . .	. . .	4 36.690			Weisse 0, 804, 0 46 40.70 + 5 15 33.69
	Io	22 19 00	300 14.5	3 33.355	21 57.5	16.466	°
							T = 8.17
	Weisse 0, 804 . .	. . .	. . .	4 36.593			Io—Weisse 0, 804,
	Io	22 23 45	300 9.5	3 33.105	21 52.5	16.519	Δ α Δ δ
							h. m. s. m. s. ′ ″
	Weisse 0, 804 . .	. . .	. . .	4 37.300			Sid. T. 22 31 42.3 + 0 5.97 + 3 51.06
	Io	22 45 40	298 57.0	3 34.485	20 40.0	15.846	Δ ρ .00 + .11
							p − .18 + 3.43
	Weisse 0, 804 . .	. . .	. . .	4 37.065			
	Io	22 48 00	298 22.0	3 34.278	20 5.0		
						15.838	

		OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.		PLANET—STAR. Δ α	Δ mic.	
		s.	s.	s.	h. m. s.		m. s.	revs.	
Nov. 6		14.6	. .	39.4	0 58 26.90	5 39.195	+1 33.84	+ 27.545	Corr. Chron. + 1 25.10
	Weisse 0, 726 . .	18.6	26.8	35.1					α δ
F.		48.5	. .	12.8					h. m. s. ° ′ ″
	Io	52.7	0.9	8.8	1 0 0.74	3 41.698			Weisse 0, 726, 0 42 39.61 + 4 11 53.56
		0.4	. .	24.6					Weisse 0, 800, 0 46 25.30 + 4 16 42.97
	Weisse 0, 800 . .	4.3	12.5	20.6	1 2 12.48	4 36.322	−2 11.74	7.655	
		44.8	. .	8.8					Io—Weisse 0, 726,
	Weisse 0, 726 . .	48.6	56.6	4.9	2 24 56.74	4 42.095	+1 32.66	24.562	Δ α Δ δ
		17.5	. .	41.8					h. m. s. m. s. ′ ″
	Io	21.1	29.3	37.3	26 29.40	2 43.330			Sid. T. 2 17 30.74 + 1 32.91 + 6 23.49
		30.3	. .	54.3					Δ ρ .00 + .16
	Weisse 0, 800 . .	34.3	42.5	50.4	28 42.36	2 49.108	−2 12.96	5.778	p + .11 + 3.27
		28.2	. .	51.6					
	Weisse 0, 726 . .	31.9	40.2	48.4	30 40.26	4 42.035	+1 32.56	24.449	Io—Weisse 0, 800,
		0.8	. .	24.9					h. m. s.
	Io	4.7	12.8	20.9	32 12.82	2 43.383			Sid. T. 2 17 30.74 − 2 12.69 + 1 31.95
		13.8	. .	38.1					Δ ρ .00 + .04
	Weisse 0, 800 . .	17.7	25.5	33.8	34 25.78	2 48.979	−2 12.96	5.596	p + .11 + 3.27
		5.8	. .	29.9					
	Weisse 0, 726 . .	8.7	17.6	25.9	36 17.58	4 41.973	+1 32.96	24.348	
		38.5							
	Io	42.3	50.3	. .	37 50.54	2 43.422			
		51.3	. .	15.5					
	Weisse 0, 800 . .	55.3	3.3	11.3	2 40 3.34	3 36.219	−2 12.80	+ 5.563	

(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 6		10.0	. .	34.4					
	Weisse 0, 726 . .	13.9	22.1	30.4	2 42 22.16	4 41.979	+1 32.52	+ 24.117	
F.		42.7	. .	6.6					
	Io	46.6	54.7	2.8	43 54.68	2 43.659			
		55.6	. .	19.9					
	Weisse 0, 800 . .	59.4	7.6	15.8	2 46 7.66	3 36.279	−2 12.98	+ 5.386	
		35.8	. .	0.3					m. s.
Nov. 7									Corr. Chron. + 1 22.30
	Weisse 0, 726 . .	39.8	48.2	56.2	22 18 48.06	2 45.690	+1 19.98	− 0.263	α δ
H.		55.8	. .	20.2					h. m. s. ° ′ ″
	Io	59.9	8.1	16.2	20 8.04	2 45.953			Weisse 0, 726, 0 42 39.60 + 4 11 53.53
		56.3	. .	20.7					
	Weisse 0, 726 . .	0.2	8.4	16.6	22 8.44	2 45.714	1 19.94	0.316	Io—Weisse 0, 726,
		16.4	. .	40.6					Δ α Δ δ
	Io	20.1	28.3	36.5	23 28.38	2 46.030			h. m. s. m. s. ′ ″
									Sid. T. 22 35 7.88 + 1 19.79 − 0 8.77
		32.9	. .	57.2					Δ ρ .00 .00
	Weisse 0, 726 . .	36.8	45.0	53.0	24 44.98	2 45.784	1 19.90	0.366	p − .16 + 3.28
		52.9	. .	16.9					
	Io	56.9	4.8	12.9	26 4.88	2 46.150			
		15.0	. .	39.3					
	Weisse 0, 726 . .	19.0	27.2	35.3	27 27.16	2 45.826	1 19.88	0.504	
		35.0	. .	59.2					
	Io	38.7	47.1	55.2	28 47.04	2 46.330			
		10.9	. .	35.2					
	Weisse 0, 726 . .	14.9	23.0	31.2	33 23.04	2 45.925	1 19.78	0.543	
		30.7	. .	55.0					
	Io	34.7	42.8	50.9	34 42.82	2 46.468			
		10.0	. .	34.3					
	Weisse 0, 726 . .	13.8	21.9	30.1	36 22.02	2 45.943	1 19.72	0.513	
		29.7	. .	53.8					
	Io	33.5	41.9	49.8	37 41.74	2 46.458			
		55.8	. .	20.1					
	Weisse 0, 726 . .	59.8	8.1	16.2	39 8.00	2 45.860	1 19.64	0.798	
		15.6	. .	39.9					
	Io	19.5	27.5	35.7	40 27.64	2 46.658			
		26.4	. .	50.6					
	Weisse 0, 726 . .	30.3	38.4	46.7	42 38.48	2 45.930	1 19.66	0.985	
		46.0	. .	10.4					
	Io	50.0	58.0	6.3	43 58.14	2 46.915			
		5.7	. .	30.1					
	Weisse 0, 726 . .	9.9	18.0	26.0	46 17.94	2 46.170	+1 19.64	− 0.858	
		25.5	. .	49.7					
	Io	29.4	37.7	45.6	22 47 37.58	2 47.028			
		15.6	. .	40.0					m. s.
Nov. 8									Corr. Chron. + 1 31.40
	Weisse 0, 726 . .	19.6	27.7	35.8	23 29 27.74	3 36.552	+1 4.70	− 30.811	α δ
F.				44.7					h. m. s. ° ′ ″
	Io	24.2	32.4	40.6	30 32.44	5 37.315			Weisse 0, 726, 0 42 39.60 + 4 11 53.46
		35.7	. .	0.2					
	Weisse 0, 726 . .	39.7	47.8	56.1	31 47.90	3 36.544	1 4.82	30.866	Io—Weisse 0, 726,
				4.8					Δ α Δ δ
	Io	44.7	52.9	0.7	32 52.72	5 37.362			h. m. s. m. s. ′ ″
									Sid. T. 23 44 29.04 + 1 4.69 − 7 55.70
		17.1	. .	41.4					Δ ρ .00 − .20
	Weisse 0, 726 . .	20.8	29.2	37.3	35 29.16	3 36.595	1 4.72	31.025	p − .08 + 3.31
		21.8	. .	46.0					
	Io	25.7	33.9	42.0	36 33.88	5 37.572			
		39.6	. .	4.0					
	Weisse 0, 726 . .	43.5	51.7	59.8	37 51.72	3 36.748	+1 4.80	− 30.785	
		44.5	. .	8.6					
	Io	48.3	56.6	4.6	23 38 56.52	5 37.485			

(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 8		1.7	. .	26.1					
	Weisse 0, 726 . .	5.6	13.8	22.0	23 40 13.84	3 37.743	+1 4.70	— 30.970	
F.		6.5	. .	30.6					
	Io	10.4	18.6	26.6	41 18.54	5 37.665			
		48.7	. .	12.7					
	Weisse 0, 726 . .	52.5	0.7	8.8	44 0.68	3 36.825	1 4.78	30.945	
		53.4	. .	17.6					
	Io	57.3	5.4	13.6	45 5.46	5 37.722			
		4.6	. .	28.8					
	Weisse 0, 726 . .	8.5	16.7	24.7	46 16.66	3 36.791	1 4.70	31.097	
		9.3	. .	33.5					
	Io	13.1	21.4	29.5	47 21.36	5 37.840			
		30.0	. .	54.4					
	Weisse 0, 726 . .	34.1	42.0	50.3	48 42.16	3 36.864	1 4.50	31.105	
		34.5	. .	58.8					
	Io	38.5	46.6	54.9	49 46.66	5 37.921			
		50.7	. .	14.9					
	Weisse 0, 726 . .	54.5	2.8	10.8	51 2.74	3 36.899	1 4.56	31.228	
		55.3	. .	19.3					
	Io	59.1	7.4	15.4	52 7.30	5 38.079			
		44.8	. .	9.2					
	Weisse 0, 726 . .	48.8	56.9	5.0	53 56.94	3 36.851	+1 4.62	— 31.329	
		49.4	. .	13.7					
	Io	53.5	1.6	9.6	23 55 1.56	5 38.132			
Nov 11	W. 138	48.8	57.0	5.0	23 34 56.93	4 38.022	+0 20.60	+ 38.687	m. s. Corr. Chron. + 1 40.00
	Io	9.4	17.6	25.6	35 17.53	1 42.285			α δ
H.									h. m. s. ° ′ ″
	W. 138	32.2	40.3	48.5	38 40.33	4 38.084	0 20.30	38.730	W. 138, 0 42 50.57 + 3 33 17.87
	Io	52.4	0.8	8.7	39 0.63	1 42.304			
									Io—W. 138,
	W. 138	34.5	42.8	51.0	43 42.77	4 38.133	0 20.36	38.598	Δ α Δ δ
	Io	54.9	3.2	11.3	44 3.13	1 42.485			h. m. s. m. s. ′ ″
									Sid. T. 22 49 31.52 — 0 20.30 + 9 50.54
	W. 138	56.0	4.2	12.3	47 4.17	4 38.174	0 20.20	38.480	Δ ρ .00 + .25
	Io	16.0	24.4	32.7	47 24.37	1 42.644			p — .07 + 3.27
	W. 138	33.0	41.2	49.2	49 41.13	4 38.165	0 20.24	38.508	
	Io	53.2	1.3	9.6	50 1.37	1 42.607			
	W. 138	2.0	10.2	18.3	52 10.17	4 38.160	0 20.23	38.377	
	Io	22.2	30.4	38.6	52 30.40	1 42.733			
	W. 138	30.2	38.5	46.7	55 38.47	4 38.218	0 20.20	38.355	
	Io	50.5	58.8	6.7	55 58.67	1 42.813			
	W. 138	7.6	15.9	24.0	58 15.83	4 38.299	+0 20.24	+ 38.299	
	Io	27.9	36.0	44.3	23 58 36.07	1 42.950			
Nov. 24		4.1	. .	28.5					m. s. Corr. Chron. + 2 22.13
	Io	8.1	16.2	24.5	23 3 16.28	4 35.995			α δ
F.		6.9	. .	31.1					h. m. s. ° ′ ″
	Weisse 0, 741 . .	10.8	19.2	27.2	3 19.04	4 34.800			Santini 46, 0 44 25.27 + 2 39 32.64
		44.8							
	Weisse 0, 753 . .	48.7	56.7	4.6	3 56.74	2 39.693			Io—Santini 46,
		0.6	. .	25.1					Δ α Δ δ
	Santini 46 . . .	4.7	12.8	20.8	4 12.80	4 33.412	—0 56.52	— 2.583	h. m. s. m. s. ′ ″
									Sid. T. 23 17 25.38 — 0 56.43 — 0 41.38
		35.6	. .	59.8					Δ ρ .00 — .02
	Io	39.5	47.8	55.7	5 47.68	4 36.270			p — .11 + 3.08
				55.6					
	Santini 46 . . .	35.8	44.3	52.4	6 44.24	4 33.563	0 56.56	2.707	
		44.8	. .	9.2					
	Io	48.6	57.2	5.1	7 56.98	4 36.156			
		41.5	. .	5.6					
	Santini 46 . . .	45.2	53.5	1.6	23 8 53.48	4 33.568	—0 56.50	— 2.588	(Continued.)

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 24		59.1	. .	22.8					
	Io	3.1	11.4	19.5	23 11 11.18	4 36.416			
F.		55.7	. .	19.8					
	Santini 46 . . .	59.5	7.6	15.6	12 7.64	4 33.775	—0 56.46	— 2.641	
		38.5	. .	2.7					
	Io	42.5	50.8	58.6	13 50.62	4 36.422			
		34.9	. .	59.1					
	Santini 46 . . .	38.8	46.8	55.2	14 46.96	4 33.692	0 56.34	2.730	
		54.3	. .	18.5					
	Io	58.1	6.3	14.5	16 6.34	4 36.464			
		50.8	. .	15.0					
	Santini 46 . .	54.6	2.7	10.8	17 2.78	4 33.683	0 56.44	2.781	
		26.1	. .	50.3					
	Io	30.0	37.9	46.1	19 38.08	4 36.415			
		22.3	. .	46.6					
	Santini 46 . . .	26.3	34.4	42.5	20 34.42	4 33.821	0 56.34	2.594	
		39.5	. .	3.4					
	Io	43.5	51.5	59.6	21 51.50	4 36.589			
		35.8	. .	0.2					
	Santini 46 . . .	39.8	47.8	56.0	22 47.92	4 33.798	0 56.42	2.791	
		59.5	. .	23.8					
	Io	3.6	11.8	19.7	24 11.68	4 36.630			
		56.2	. .	20.4					
	Santini 46 . . .	59.8	7.9	16.2	25 8.10	4 33.891	0 56.42	2.739	
		27.5	. .	51.4					
	Io	31.3	39.5	47.5	26 39.44	4 36.730			
		23.8	. .	47.8					
	Santini 46 . . .	27.6	35.8	43.8	23 27 35.76	4 33.904	—0 56.32	— 2.826	
Dec. 1	Santini 46 . . .	43.6	55.5	7.7	0 14 55.60	1 32.439	+1 1.75	— 72.376	
	Io	. .	57.6	9.1	15 57.35	5 44.849			
F.									
	Santini 46 . . .	2.8	14.9	27.1	19 14.93	1 32.562	1 1.30	72.334	
	Io	4.1	16.3	28.3	20 16.23	5 44.930			
	Santini 46 . . .	11.3	23.3	35.5	23 23.37	1 32.618	1 1.43	72.121	
	Io	12.5	25.1	36.8	24 24.80	5 44.773			
	Santini 46 . . .	7.6	19.8	32.0	28 19.80	1 32.743	1 1.50	72.286	
	Io	9.2	21.3	33.4	29 21.30	5 45.063			
	Santini 46 . . .	5.8	18.0	30.0	31 17.93	1 32.643	1 1.60	72.105	
	Io	7.6	19.3	31.7	32 19.53	5 44.782			
	Santini 46 . . .	3.8	15.8	27.9	35 15.83	1 32.627	+1 1.60	— 72.187	
	Io	5.1	17.4	29.8	0 36 17.43	5 44.848			
Dec. 15	Weisse 0, 902 . .	43.0	51.0	58.5	9 10 50.83	3 41.192	+0 16.13	— 16.461	
	Io	. .	. .	14.6	11 6.93	4 44.622			
F.									
	Weisse 0, 902 . .	51.0	59.0	7.0	14 59.00	3 41.805	0 16.00	16.418	
	Io	. .	. .	23.0	15 15.00	4 45.192			
	Weisse 0, 902 . .	29.0	37.0	45.0	24 37.00	3 41.038	0 16.75	16.623	
	Io	46.0	. .	1.5	24 53.75	4 44.630			
	Weisse 0, 902 . .	29.0	37.0	45.0	28 37.00	3 41.329	0 16.33	16.534	
	Io	46.0	53.0	1.0	28 53.33	4 44.832			
	Weisse 0, 902 . .	42.5	51.0	58.5	33 50.67	3 41.049	+0 16.03	— 16.622	
	Io	59.0	6.5	14.6	9 34 6.70	4 44.640			

Dec. 1 F.

m. s.
Corr. Chron. + 2 42.44

	α h. m. s.	δ ° ′ ″
Santini 46,	0 44 25.20	+ 2 39 32.1

Io—Santini 46,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
Sid. T.	0 29 8.60	+ 1 1.58	—18 27.9
Δ ρ		.00	— .4
p		— .02	+ 2.93

Dec. 15 F.

m. s.
Corr. Chron. — 5 38.90

	α h. m. s.	δ ° ′ ″
Weisse 0, 902,	0 52 31.63	+ 2 21 36.34

Io—Weisse 0, 902,

	h. m. s.	Δ α m. s.	Δ δ ′ ″
M. T.	9 17 13.2	+ 0 16.25	— 4 13.25
Δ t		+ .04	
Δ ρ		.00	— .13
p		+ .12	+ 2.65

IO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 21		5.8	. .	30.2				
	Weisse 0, 979 . .	9.8	17.9	26.1	1 16 17.96	3 39.224	+0 32.84	— 20.537
H.		38.6	. .	3.0				
	Io	42.6	50.9	58.9	16 50.80	4 46.730		
		16.6	. .	40.7				
	Weisse 0, 979 . .	20.5	28.8	36.9	20 28.70	3 39.442	0 32.83	20.260
		49.2	. .	13.7				
	Io	. .	1.7	9.7	21 1.53	4 46.671		
		45.2	. .	9.6				
	Weisse 0, 979 . .	49.2	57.3	5.4	24 57.33	3 39.424	0 33.05	20.179
		18.3	. .	42.5				
	Io	22.1	30.4	38.6	25 30.38	4 46.572		
		18.2	. .	42.3				
	Weisse 0, 979 . .	22.1	30.2	38.5	28 30.26	3 39.340	0 33.06	20.323
		51.4	. .	15.9				
	Io	55.0	3.2	11.1	29 3.32	4 46.632		
		40.6	. .	4.8				
	Weisse 0, 979 . .	44.4	52.9	0.7	32 52.68	3 39.474	+0 33.24	— 20.484
		13.9	. .	38.1				
	Io	17.9	26.1	33.8	1 33 25.92	4 46.927		
		51.5	. .	15.6				
Dec. 22	Weisse 0, 979 . .	55.2	3.3	11.4	1 54 3.40	2 45.522	+1 21.05	— 14.045
		12.3	. .	36.6				
F.	Io	16.3	24.5	. .	55 24.45	3 44.243		
		51.1	. .	15.6				
	Weisse 0, 979 . .	54.8	3.1	11.0	58 3.12	2 45.368	1 21.26	14.242
		12.3	. .	36.4				
	Io	16.3	24.4	32.5	1 59 24.38	3 43.892		
		39.6	. .	3.8				
	Weisse 0, 979 . .	43.1	51.8	59.5	2 0 51.56	2 45.360	1 21.56	14.160
		1.2	. .	25.4				
	Io	5.1	13.1	20.8	2 13.12	3 43.966		
		57.9	. .	22.1				
	Weisse 0, 979 . .	1.8	10.0	17.9	6 9.94	2 45.112	1 21.50	14.086
		19.8	. .	43.5				
	Io	23.5	31.3	39.1	7 31.44	3 43.792		
		24.6	. .	48.8				
	Weisse 0, 979 . .	28.4	36.6	44.6	10 36.60	2 45.062	1 21.90	14.219
		46.6	. .	10.3				
	Io	50.5	58.7	6.4	11 58.50	3 43.609		
		4.3	. .	28.3				
	Weisse 0, 1028 . .	8.1	16.1	24.3	13 16.22	2 39.941		
		19.4	. .	43.6				
	Weisse 0, 979 . .	23.1	31.5	39.3	46 31.38	2 44.935	1 23.08	14.351
		42.6	. .	6.8				
	Io	46.3	54.3	2.3	47 54.46	3 43.350		
		3.2	. .	27.4				
	Weisse 0, 979 . .	7.1	15.3	23.4	49 15.28	2 45.018	1 23.14	14.272
		26.5	. .	50.3				
	Io	30.5	38.7	46.1	50 38.42	3 43.512		
		40.3	. .	4.1				
	Weisse 0, 979 . .	44.2	52.4	0.2	51 52.24	2 44.842	1 22.84	14.192
		3.2	. .	27.2				
	Io	7.0	15.1	22.9	53 15.08	3 43.416		
		55.3	. .	19.4				
	Weisse 0, 979 . .	59.3	7.1	15.2	55 7.26	2 44.928	1 23.06	14.483
		18.3	. .	42.6				
	Io	22.4	30.2	38.1	56 30.32	3 43.211		
		32.2	. .	56.4				
	Weisse 0, 979 . .	35.8	44.2	52.3	57 44.18	2 44.780	+1 23.22	— 14.341
		55.6	. .	19.6				
	Io	59.3	7.1	15.4	2 59 7.40	3 43.205		
		11.8	. .	35.8				
	Weisse 0, 1028 . .	15.8	23.6	31.8	3 1 23.76	2 39.612		

RESULTS.

m. s.
Corr. Chron. + 4 5.4

	α h. m. s.	δ ° ′ ″
Weisse 0, 979,	0 56 32.33	+ 2 32 7.93

Io—Weisse 0, 979,

	Δ α m. s.	Δ δ ′ ″
Sid. T. 1 29 15.79	+ 0 33.00	— 5 12.21
Δ ρ	.00	— .13
p	+ .03	+ 2.52

m. s.
Corr. Chron. + 4 11.77

	α h. m. s.	δ ° ′ ″
Weisse 0, 979,	0 56 32.32	+ 2 32 7.84

Io—Weisse 0, 979,

	Δ α m. s.	Δ δ ′ ″
Sid. T. 2 32 42.30	+ 1 22.26	— 3 38.38
Δ ρ	.00	— .10
p	+ .12	+ 2.52

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 6		57.4	. .	21.3					m. s. Corr. Chron. + 0 21.50
	Irene	1.2	9.4	17.4	22 47 9.34	5 33.330			α δ
F.				10.4					h. m. s. ° ′ ″
	D. M. — 1° 267 .	. .	58.0	6.1	47 58.14	3 37.072	—0 48.80	— 26.306	D. M. — 1° 267, 1 52 20.06 — 1 39 25.57
		35.2	. .	59.7					Irene—D. M. — 1° 267,
	Irene	38.6	46.9	55.3	49 47.14	5 33.530			Δ α Δ δ
		23.5	. .	48.3					h. m. s. m. s. ′ ″
	D. M. — 1° 267	27.5	35.6	43.9	50 35.76	3 37.312	0 48.62	26.266	Sid. T. 23 1 22.85 — 0 49.15 — 6 45.19
		12.3	. .	36.2					Δ ρ — .01 — .26
	Irene . . .	16.2	24.3	32.6	52 24.32	5 33.650			p — .15 + 2.76
		1.1	. .	25.4					
	D. M. — 1° 267 .	5.1	13.3	21.3	53 13.24	3 37.495	0 48.92	26.203	
		6.3	. .	30.4					
	Irene	9.8	18.2	26.2	55 18.18	5 33.975			
		55.3	. .	19.3					
	D. M. — 1° 267 .	58.8	7.1	15.3	56 7.16	3 37.572	0 48.98	26.451	
		50.0	. .	14.3					
	Irene	54.1	2.3	10.3	59 2.20	5 34.265			
		39.2	. .	3.6					
	D. M. — 1° 267 .	43.3	51.5	59.5	22 59 51.42	3 37.811	0 49.22	26.502	
		7.9	. .	32.2					
	Irene	11.8	19.8	28.2	23 3 19.98	5 34.390			
		57.3	. .	21.6					
	D. M. — 1° 267 .	1.2	9.4	17.2	4 9.34	3 37.875	0 49.36	26.563	
		29.0	. .	52.8					
	Irene	32.8	40.8	48.8	6 40.84	5 34.608			
		18.4	. .	42.4					
	D. M. — 1° 267 .	22.4	30.5	38.4	7 30.42	3 38.105	0 49.58	26.551	
		1.8	. .	26.2					
	Irene	5.8	14.1	21.9	9 13.96	5 34.750			
		51.5	.	15.6					
	D. M. — 1° 267 .	55.2	3.2	11.4	10 3.38	3 38.409	0 49.42	26.389	
		11.5	. .	35.4					
	Irene	15.3	23.6	31.6	12 23.48	5 34.765			
		1.1	. .	25.1					
	D. M. — 1° 267 .	4.9	12.8	20.8	13 12.94	3 38.428	0 49.46	26.385	
		42.2	. .	6.4					
	Irene	45.8	54.1	1.9	14 54.08	5 35.018			
				55.9					
	D. M. — 1° 267 .	. .	43.8	51.6	23 15 43.71	3 38.490	—0 49.63	— 26.576	
		50.0	. .	14.2					
Oct. 10									m. s. Corr. Chron. + 0 28.70
	Weisse I, 831 . .	54.0	2.3	10.3	23 19 2.16	3 37.813	+1 9.10	— 17.173	α δ
H.		59.2	. .	23.5					h. m. s. ° ′ ″
	Irene	3.1	11.2	19.3	20 11.26	4 41.955			Weisse I, 831, 1 46 57.38 — 2 0 34.49
		21.3	. .	45.5					Irene—Weisse I, 831,
	Weisse I, 831 . .	25.3	33.6	41.6	21 33.46	3 37.850	1 9.16	17.245	Δ α Δ δ
		30.6	. .	54.7					h. m. s. m. s. ′ ″
	Irene	34.4	42.6	50.8	22 42.62	4 42.064			Sid. T. 23 32 34.56 + 1 8.80 — 4 27.82
									Δ ρ .00 — .14
		54.6	. .	18.7					p — .12 + 2.80
	Weisse I, 831 . .	58.4	6.7	14.8	24 6.64	3 37.870	1 9.14	17.411	
		3.6	. .	28.0					
	Irene	7.7	15.7	23.9	25 15.78	4 42.250			
		3.0	. .	27.0					
	Weisse I, 831 . .	6.9	15.0	23.0	27 14.98	3 37.922	1 9.02	17.545	
		11.9	. .	36.2					
	Irene	15.8	24.0	32.1	28 24.00	4 42.436			
		26.4	. .	50.2					
	Weisse I, 831 . .	30.4	38.4	46.3	29 38.34	3 38.071	+1 8.80	— 17.321	
		35.2	. .	59.1					
	Irene	39.0	47.2	55.2	23 30 47.14	4 42.361			

(Continued.)

IRENE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ *a*	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 10		6.7	. .	31.0					
	Weisse I, 831 . .	10.7	18.9	26.9	23 32 18.84	3 38.107	+1 8.76	— 17.480	
H.		15.3	. .	39.9					
	Irene	19.4	27.6	35.8	33 27.60	4 42.556			
		38.7	. .	2.8					
	Weisse I, 831 . .	42.6	50.8	58.7	34 50.72	3 38.112	1 8.66	17.569	
		47.2	. .	11.6					
	Irene	51.2	59.5	7.4	35 59.38	4 42.650			
		5.4	. .	29.8					
	Weisse I, 831 . .	9.3	17.6	25.6	37 17.54	3 38.180	1 8.56	17.625	
		14.0	. .	38.3					
	Irene	18.0	26.1	34.1	38 26.10	4 42.774			
		17.6	. .	41.9					
	Weisse I, 831 . .	21.3	29.6	37.8	40 29.64	3 38.243	1 8.44	17.561	
		26.0	. .	50.2					
	Irene	30.0	38.0	46.2	41 38.08	4 42.773			
		46.3	. .	10.2					
	Weisse I, 831 . .	50.2	58.3	6.2	42 58.24	3 38.345	+1 8.38	— 17.689	
		54.4	. .	18.8					
	Irene	58.4	6.7	14.8	23 44 6.62	4 43.003			
Oct. 11	Weisse I, 819 . .	2.0	10.4	18.2	22 53 10.20	2 37.850	+0 56.70	— 42.426	
	Weisse I, 831 . .	40.5	48.5	56.5	53 48.50	3 32.772			
F.	Irene	. .	7.1	14.9	54 6.90	5 37.563			
	Weisse I, 819 . .	19.8	28.3	36.4	55 28.17	2 38.032	0 56.73	42.566	
	Irene	16.8	24.9	33.0	56 24.90	5 37.885			
	Weisse I, 819 . .	36.6	44.6	52.7	57 44.63	2 38.055	0 56.50	42.774	
	Irene	32.9	41.2	49.3	58 41.13	5 38.116			
	Weisse I, 819 . .	33.5	41.5	49.5	22 59 41.50	2 38.382	0 56.43	42.363	
	Irene	29.5	38.1	46.2	23 0 37.93	5 38.032			
	Weisse I, 819 . .	7.6	15.8	23.8	6 15.73	2 38.325	0 56.30	42.728	
	Irene	. .	. .	20.1	7 12.03	5 38.340			
	Weisse I, 819 . .	10.1	18.1	26.3	8 18.17	2 38.514	0 56.00	42.519	
	Irene	5.8	14.3	22.4	9 14.17	5 38.320			
	Weisse I, 819 . .	2.4	10.7	18.6	10 10.57	2 38.459	0 56.33	42.675	
	Irene	58.7	7.0	15.0	11 6.90	5 38.421			
	Weisse I, 819 . .	9.8	17.9	26.2	12 17.97	2 38.492	0 56.13	42.453	
	Irene	5.8	14.3	22.2	13 14.10	5 38.232			
	Weisse I, 819 . .	4.2	12.5	20.7	14 12.47	2 38.591	0 55.90	42.581	
	Irene	0.3	8.4	16.4	15 8.37	5 38.459			
	Weisse I, 819 . .	48.6	56.9	4.8	15 56.77	2 38.632	+0 55.70	— 42.602	
	Irene	44.4	52.4	0.6	23 16 52.47	5 38.520			

m. s.
Corr. Chron. + 0 29.45

	a h. m. s.	*δ* ° ′ ″
Weisse I, 819,	1 46 19.05	— 1 58 18.32

Irene—Weisse I, 819,

	h. m. s.	Δ *a* m. s.	Δ *δ* ′ ″
Sid. T.	23 6 45.37	+ 0 56.27	—10 52.88
Δ *ρ*		— .01	— .41
p		— .14	— 2.79

MNEMOSYNE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs	m. s.	revs.	
Nov. 11		53.9	. .	17.9					Corr. Chron. + 1 40.00
	Mnemosyne . . .	57.5	5.8	13.8	0 51 5.78	1 39.793	—0 48.60	+ 59.195	α δ
H.		42.0	. .	6.8					h. m. s. c ′ ″
	Weisse II, 580 . .	46.2	54.3	2.6	51 54.38	5 39.022			Weisse II, 580, 2 34 5.57 + 5 29 44.44
		2.0	. .	26.0					
	Mnemosyne . . .	5.9	14.0	22.0	53 13.98	1 39.666	0 48.92	59.385	Mnemosyne—Weisse II, 580,
		50.7	. .	15.1					Δ α Δ δ
	Weisse II, 580 . .	54.6	3.0	11.1	54 2.90	5 39.085			h. m. s. m. s. ′ ″
									Sid. T. 0 59 45.36 — 0 48.97 +15 7.64
		38.0	. .	2.0					Δ ρ .00 + .40
	Mnemosyne . . .	41.9	50.1	58.0	55 50.00	1 39.668	0 48.92	59.453	p — .10 + 2.55
		26.6	. .	51.3					
	Weisse II, 580 . .	30.7	39.0	. .	56 38.92	5 39.155			
		53.7	. .	17.8					
	Mnemosyne . . .	57.6	5.8	13.9	58 5.76	1 39.884	0 48.94	59.180	
		42.4	. .	7.0					
	Weisse II, 580 . .	46.4	54.7	3.0	0 58 54.70	5 39.098			
		7.0	. .	31.1					
	Mnemosyne . . .	10.9	19.1	27.0	1 0 19.02	1 40.030	0 49.00	59.078	
		55.9	. .	20.2					
	Weisse II, 580 . .	59.9	8.1	16.0	1 8.02	5 39.142			
		41.4	. .	6.0					
	Mnemosyne . . .	45.4	53.6	1.6	2 53.60	1 40.137	0 49.18	58.974	
		30.6	. .	55.0					
	Weisse II, 580 . .	34.6	42.8	50.9	3 42.78	5 39.145			
		57.5	. .	21.7					
	Mnemosyne . . .	1.2	9.3	17.6	5 9.46	1 40.154	—0 49.22	+ 58.980	
		46.5	. .	11.0					
	Weisse II, 580 . .	50.4	58.6	6.9	1 5 58.68	5 39.168			
		55.1							
Nov. 13									Corr. Chron. + 1 48.25
	Mnemosyne . . .	59.1	7.4	. .	0 47 7.40	2 44.341			α δ
F.									h. m. s. ° ′ ″
	B. A. C. 817 . . .	. .	24.9	32.9	48 24.90	2 35.832	—1 17.50	— 8.509	B. A. C. 817, 2 33 13.13 + 5 32 3.59
		43.6	. .	7.4					
	Mnemosyne . . .	47.3	55.7	3.6	49 55.52	3 31.529			Mnemosyne—B. A. C. 817,
		1.4	. .	25.5					Δ α Δ δ
	B. A. C. 817 . . .	5.4	13.5	21.5	51 13.46	2 35.719	1 17.94	8.576	h. m. s. m. s. ′ ″
									Sid. T. 1 6 36.86 — 1 18.44 — 2 15.84
		58.3	. .	22.5					Δ ρ .00 — .06
	Mnemosyne . . .	2.3	10.4	18.4	53 10.38	3 31.681			p — .09 + 2.56
		16.4	. .	40.7					
	B. A. C. 817 . . .	20.4	28.3	36.5	55 28.46	2 35.782	1 18.08	8.665	
		34.2	. .	58.4					
	Mnemosyne . . .	38.3	46.5	54.3	56 46.34	3 31.736			
		52.7	. .	17.1					
	B. A. C. 817 . . .	56.7	4.9	12.8	0 58 4.84	2 35.775	1 18.50	8.727	
		56.5	. .	20.6					
	Mnemosyne . . .	0.4	8.5	16.4	1 0 8.48	3 31.949			
		14.6	. .	39.3					
	B. A. C. 817 . . .	18.7	26.8	34.8	1 26.84	2 35.760	1 18.36	8.955	
		3.8	. .	27.8					
	Mnemosyne . . .	7.7	16.1	23.8	6 15.84	3 32.035			
				46.6					
	B. A. C. 817 . . .	. .	34.2	42.3	7 34.31	2 35.869	1 18.47	8.932	
		29.7	. .	53.8					
	Mnemosyne . . .	33.6	41.8	49.7	9 41.72	3 31.993			
		48.2	. .	12.4					
	B. A. C. 817 . . .	52.2	0.3	8.4	11 0.30	2 35.942	1 18.58	8.817	
		6.9	. .	30.9					
	Mnemosyne . . .	10.9	19.0	27.2	12 18.98	3 32.200			
		25.6	. .	49.8					
	B. A. C. 817 . . .	29.6	37.6	45.8	1 13 37.68	2 35.912	—1 18.70	— 9.054	

(Continued.)

MNEMOSYNE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 13		7.9	. .	31.7					
	Mnemosyne . . .	11.9	19.9	27.8	1 16 19.84	3 32.261			
F.		26.8	. .	50.8					
	B. A. C. 817 . . .	30.7	38.6	46.8	17 38.74	2 36.065	—1 18.90	— 8.962	
		45.1	. .	9.3					
	Mnemosyne . . .	48.8	56.8	5.1	18 57.02	3 32.482			
		3.6	. .	27.9					
	B. A. C. 817 . .	7.8	15.8	24.1	20 15.84	2 36.028	1 18.82	9.220	
		0.9	. .	25.3					
	Mnemosyne . . .	5.2	13.3	21.4	22 13.22	3 32.485			
		19.9	. .	44.4					
	B. A. C. 817 . . .	24.2	32.3	40.3	1 23 32.22	2 36.242	—1 19.00	— 9.009	
									m. s.
Nov. 15	B. A. C. 794 . . .	24.5	33.1	41.1	22 40 32.90	5 36.514	+1 47.23	+ 61.229	Corr. Chron. + 1 55.20
	Mnemosyne . . .	12.0	20.2	28.2	42 20.13	1 35.251			α δ
F.	(* 11)	41.1	49.3	57.5	42 49.30	1 31.362			h. m. s. ° ′ ″
									B. A. C. 794, 2 28 51.90 + 5 0 25.67
	B. A. C. 794 . . .	41.7	50.1	58.2	46 50.00	5 36.899	1 47.13	61.189	
	Mnemosyne . . .	28.8	37.3	45.3	48 37.13	1 35.676			Mnemosyne—B. A. C. 794,
									Δ α Δ δ
	B. A. C. 794 . . .	40.5	48.8	56.8	49 48.70	5 36.885	1 47.20	61.039	h. m. s. m. s. ′ ″
	Mnemosyne . . .	27.7	35.8	44.2	51 35.90	1 35.812			Sid. T. 1 29 3.56 + 1 46.78 +15 33.13
									Δ ρ + .02 + .55
	B. A. C. 794 . . .	57.6	5.8	14.0	55 5.80	5 37.175	1 47.07	61.071	p — .19 + 2.66
	Mnemosyne . . .	44.6	52.8	1.2	56 52.87	1 36.070			
	B. A. C. 794 . . .	46.2	54.3	2.6	57 54.37	5 37.121	1 46.73	60.929	
	Mnemosyne . . .	33.1	40.9	49.3	22 59 41.10	1 36.158			
	B. A. C. 794 . . .	45.1	53.4	1.6	23 0 53.37	5 37.230	1 46.60	60.734	
	Mnemosyne . . .	31.8	39.9	. .	2 39.97	1 36.462			
	B. A. C. 794 . . .	46.8	54.9	3.2	3 54.97	5 37.358	1 46.40	60.636	
	Mnemosyne . . .	32.9	41.6	. .	5 41.37	1 36.688			
	B. A. C. 794 . . .	. .	57.7	6.0	6 57.83	5 37.542	1 46.50	60.688	
	Mnemosyne . . .	36.3	44.4	52.3	8 44.33	1 36.820			
	B. A. C. 794 . . .	8.8	16.9	25.2	11 16.97	5 37.651	1 46.73	60.561	
	Mnemosyne . . .	55.8	3.6	11.7	13 3.70	1 37.056			
	B. A. C. 794 . . .	16.5	24.8	32.9	18 24.73	5 37.840	+1 46.24	+ 60.331	
	Mnemosyne . . .	2.8	11.0	19.1	23 20 10.97	1 37.475			

PHOCÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865. Nov. 15 F.		24.2	. .	48.6					m. s. Corr. Chron. + 1 55.26
	Weisse III, 301	28.1	36.7	44.6	1 15 36.44	5 28.742			α δ
		35.6							h. m. s. ° ′ ″
	Phocæa	39.8	47.9	. .	15 47.88	4 34.080			Weisse III, 316, 3 18 46.10 + 7 1 25.01
		11.1	. .	35.5					
	Weisse III, 316	15.1	23.3	31.4	16 23.28	3 34.000	−0 35.40	− 13.111	Phocæa—Weisse III, 316,
		47.4	. .	11.8					Δ α Δ δ
	Phocæa	51.1	59.5	7.5	17 59.46	4 34.409			h. m. s. m. s. ′ ″
				47.2					Sid. T. 1 29 3.56 − 0 35.83 − 3 29.41
	Weisse III, 316	. .	34.9	42.9	18 34.86	3 34.191	0 35.40	13.249	Δ ρ .00 − .09
									p − .13 + 3.10
		46.1	. .	10.3					
	Phocæa	50.2	58.3	6.4	20 58.26	4 34.790			
				46.3					
	Weisse III, 316	25.9	33.8	41.9	21 33.93	3 34.111	0 35.67	13.710	
		53.8	. .	18.6					
	Phocæa	57.9	6.3	14.5	24 6.22	4 34.965			
		29.8	. .	54.2					
	Weisse III, 316	. .	42.1	49.8	24 41.89	3 34.362	0 35.67	13.634	
		10.0	. .	34.3					
	Phocæa	. .	22.1	30.3	26 22.15	4 34.792			
		45.8	. .	10.2					
	Weisse III, 316	49.8	58.0	5.8	26 57.92	3 34.050	0 35.77	13.773	
		24.6	. .	49.2					
	Phocæa	28.7	36.7	44.9	57 36.82	4 36.262			
				26.2					
	Weisse III, 316	5.7	14.1	21.7	1 58 13.67	3 34.848	−0 37.05	− 14.445	
Nov. 24 F.									m. s. Corr. Chron. + 2 22.13
	Weisse III, 145	50.5	59.1	7.1	1 26 58.90	2 44.755	+0 18.87	+ 0.355	α δ
	Phocæa	9.5	17.9	25.9	27 17.77	2 44.400			h. m. s. ° ′ ″
	Weisse III, 182	43.2	51.3	59.3	28 51.27	1 37.150			Weisse III, 145, 3 9 27.68 + 5 20 51.75
	(* 85)	50.0	58.3	6.3	28 58.20	3 38.180			
	Weisse III, 145	3.9	12.2	20.3	33 12.13	3 31.801	0 18.50	− 0.041	Phocæa—Weisse III, 145,
	Phocæa	22.5	30.7	38.7	33 30.63	3 31.842			Δ α Δ δ
									h. m. s. m. s. ′ ″
	Weisse III, 145	0.5	8.6	16.8	35 8.63	3 31.842	0 18.50	− 0.079	Sid. T. 1 46 23.08 + 0 18.16 − 0 4.51
	Phocæa	18.8	27.4	35.2	35 27.13	3 31.921			Δ ρ .00 .00
									p − .10 + 3.10
	Weisse III, 145	54.5	2.6	10 6	37 2.57	3 32.002	0 18.30	+ 0.013	
	Phocæa	12.5	20.8	29.3	37 20.87	3 31.989			
	Weisse III, 145	27.8	36.5	44.5	39 36.27	3 32.055	0 18.33	− 0.243	
	Phocæa	46.2	54.5	2.8	39 54.50	3 32.298			
	Weisse III, 145	27.5	35.7	43.8	41 35.67	3 32.000	0 18.06	0.192	
	Phocæa	45.5	53.8	1.9	41 53.73	3 32.192			
	Weisse III, 145	18.8	27.1	35.5	43 27.13	3 32.019	0 18.14	0.330	
	Phocæa	36.8	45.5	53.5	43 45.27	3 32.349			
	Weisse III, 145	56.4	4.8	12.8	46 4.67	3 31.979	0 17.96	0.552	
	Phocæa	14.5	22.6	30.8	46 22.63	3 32.531			
	Weisse III, 145	45.6	53.8	1.9	47 53.77	3 32.042	0 18.20	0.451	
	Phocæa	3.6	12.1	20.2	48 11.97	3 32.493			
	Weisse III, 145	34.2	42.6	50.6	49 42.47	3 31.971	0 17.86	0.531	
	Phocæa	52.3	0.4	8.3	1 50 0.33	3 32.502			
	Weisse III, 145	0.6	8.6	16.8	2 20 8.67	3 32.900	+0 17.00	− 1.180	
	Phocæa	17.8	25.5	33.7	2 20 25.67	3 34.080			

PHOCÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	ŋ. s	revs.	
Nov. 27		45.2	. .	9.6					m. s. Corr. Chron. + 2 32.00
	Weisse III, 56 . .	49.3	57.3	5.4	1 28 57.36	3 43.300	+2 19.26	— 10.381	α δ
F.		4.3	. .	29.2					h. m. s. ° ′ ″
	Phocæa	8.6	16.3	24.7	31 16.62	4 40.650			Weisse III, 56, 3 4 56.46 + 4 55 35.10
		14.0	. .	38.1					Phocæa—Weisse III, 56,
	Weisse III, 56 .	17.5	26.0	33.9	33 25.90	3 43.289	2 18.87	10.541	Δ α Δ δ
		32.8	. .	56.7					h. m. s. m. s. ′ ″
	Phocæa	36.6	44.8	52.8	35 44.74	4 40.799			Sid. T. 1 51 44.06 + 2 18.50 — 2 45.76
		10.7	. .	34.7					Δ ρ .00 — .06
	Weisse III, 56 . .	14.5	22.5	30.7	37 22.62	3 43.425	2 18.84	10.584	ρ — .09 + 3.09
		29.5	. .	53.6					
	Phocæa	33.4	41.5	49.3	39 41.46	4 40.978			
		49.6	. .	13.9					
	Weisse III, 56 . .	53.5	1.6	9.8	41 1.68	3 43.402	2 18.78	10.808	
		8.3	. .	32.7					
	Phocæa	12.2	20.5	28.6	43 20.46	4 41.179			
		27.8	. .	51.9					
	Weisse III, 56 . .	31.5	39.7	47.8	44 39.74	3 43.610	2 18.65	10.661	
				10.6					
	Phocæa	50.1	58.3	6.5	46 58.39	4 41.240			
		59.5	. .	23.7					
	Weisse III, 56 . .	3.5	11.5	19.7	48 11.58	3 43.739	2 18.43	10.712	
				42.3					
	Phocæa	. .	29.8	38.1	50 30.01	4 41.420			
		18.8	. .	42.9					
	Weisse III, 56 .	22.6	30.9	38.9	52 30.82	3 43.605	2 18.34	10.996	
		37.1	. .	1.4					
	Phocæa	41.0	49.2	57.1	54 49.16	4 41.570			
		17.3	. .	41.7					
	Weisse III, 56 . .	21.4	29.5	37.5	56 29.48	3 43.742	2 18.18	11.027	
		35.7	. .	59.9					
	Phocæa	39.4	47.6	55.7	1 58 47.66	4 41.738			
		31.5	. .	55.6					
	Weisse III, 56 . .	35.2	43.6	51.6	2 0 43.50	3 43.729	2 17.71	11.112	
		49.2	. .	13.7					
	Phocæa	52.4	1.3	9.6	3 1.24	4 41.810			
		20.8	. .	45.2					
	Weisse III, 56 . .	24.8	32.9	41.3	5 33.00	3 43.893	+2 17.92	— 11.263	
		38.8	. .	3.1					
	Phocæa	42.9	50.9	58.9	2 7 50.92	4 42.125			

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1865.		11.7	. .	37.0					m. s.
Nov. 25	Psyche	15.8	24.3	32.8	1 44 24.32	2 43.659			Corr. Chron. + 2 26.80
H.		57.0	. .	22.1					α δ
	Weisse IV, 22 . .	1.0	9.5	17.9	47 9.50	3 36.646	—2 45.18	+ 5.753	h. m. s. ° ′ ″ Weisse IV, 22, 4 3 20.16 +15 35 35.64
		18.5	. .	43.9					
	Psyche	22.6	31.2	39.4	49 31.12	3 30.926			Psyche—Weisse IV, 22,
		4.0	. .	29.3					Δ α Δ δ
	Weisse IV, 22 . .	8.2	16.7	25.0	52 16.64	3 36.835	2 45.52	5.909	h. m. s. m. s. ′ ″
		38.3	. .	3.7					Sid. T. 2 1 4.87 — 2 45.85 + 1 29.6
	Psyche	42.3	51.0	59.4	53 50.94	3 31.029			Δ ρ .00 + .03
		24.0	. .	49.0					ρ — .14 + 2.2
	Weisse IV, 22 . .	28.1	36.6	45.0	56 36.54	3 36.956	2 45.60	5.927	
		59.8	. .	25.0					
	Psyche	3.7	12.3	20.6	1 59 12.28	3 31.170			
		45.7	. .	10.9					
	Weisse IV, 22 . .	49.8	58.1	6.6	2 1 58.22	3 37.018	2 45.94	5.848	
		6.7	. .	32.0					
	Psyche	11.0	19.3	27.6	3 19.32	3 31.184			
		52.6	. .	18.0					
	Weisse IV, 22 . .	56.6	5.1	13.7	6 5.20	3 37.070	2 45.88	5.886	
		43.8	. .	9.4					
	Psyche	48.0	56.5	5.0	7 56.54	3 31.380			
		30.2	. .	55.7					
	Weisse IV, 22 . .	34.3	43.0	51.2	10 42.88	3 37.083	2 46.34	5.703	
		59.4	. .	24.6					
	Psyche	3.5	12.0	20.3	12 11.96	3 31.430			
		46.0	. .	10.9					
	Weisse IV, 22 . .	50.0	58.4	6.9	2 14 58.44	3 37.332	—2 46.48	+ 5.902	

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Feb. 14	Star G. . . .	41.9	50.6	59.6	5 23 50.70	2 40.475	+1 44.43	−30.353
		26.3	35.1	44.0	25 35.13	4 44.966		
H								
	Star G. . . .	30.6	39.5	48.6	26 39.57	2 40.508	1 44.56	30.344
		15.3	24.1	33.0	28 24.13	4 44.990		
	Star G. . . .	20.7	29.7	38.6	29 29.67	2 40.535	1 44.43	30.497
		5.3	14.1	22.9	31 14.10	4 45.170		
	Star G. . . .	6.6	15.2	24.2	32 15.33	2 40.568	+1 44.57	30.430
		51.1	59.9	8.7	33 59.90	4 45.136		
		1.8	10.3	19.2	36 10.43	3 37.584	−2 32.74	0.305
		5.8	14.4	23.3	37 14.50	3 42.236	1 28.67	4.957
	Star G. . . .	34.3	43.1	52.1	38 43.17	3 37.279		
		1.7	10.5	19.3	43 10.50	3 37.518	2 33.00	0.036
		6.0	14.9	23.8	44 14.90	3 42.604	−1 28.60	− 5.122
	Star G. . . .	34.7	43.4	52.4	45 43.50	3 37.482		
		48.8	57.7	6.4	47 57.63	2 42.122	+2 14.13	+ 8.145
		26.3	35.0	44.0	49 35.10	3 37.515	−2 33.03	+ 0.048
		30.6	39.2	48.1	50 39.30	3 42.689	−1 28.83	− 5.126
	Star G. . . .	59.3	8.0	17.1	52 8.13	3 37.563		
		13.2	22.1	31.2	54 22.17	2 42.145	+2 14.04	+ 8.203
		20.9	29.5	38.6	56 29.67	3 40.270	−1 2.93	− 2.481
	Star G. . . .	23.7	32.5	41.6	57 32.60	3 37.789		
		14.9	23.8	32.7	58 23.80	4 41.177	+0 51.20	16.465
		44.3	53.0	2.0	5 59 53.10	3 40.374	−1 2.97	2.654
	Star G. . . .	47.2	56.0	5.0	6 0 56.07	3 37.720		
		38.3	47.1	56.0	1 47.13	4 41.313	+0 51.06	16.670
		25.0	33.7	42.7	3 33.80	3 40.488	−1 2.97	2.466
	Star G. . . .	27.9	36.7	45.7	4 36.77	3 38.022		
		19.2	27.7	36.8	5 27.90	4 41.510	+0 51.13	16.565
	Star G. . . .	31.0	39.8	48.8	7 39.87	3 38.162		
		36.1	44.9	53.9	7 44.97	3 46.715	0 5.10	8.553
	Star G. . . .	9.2	18.0	27.0	8 18.07	3 38.154		
		14.4	23.3	32.2	8 23.30	3 46.765	0 5.23	8.611
	Star G. . . .	47.2	55.9	4.8	8 55.97	3 38.010		
		52.3	1.0	9.9	9 1.07	3 46.696	0 5.10	8.686
	Star G. . .	33.5	46.4	59.3	15 46.40	3 38.262		
		42.7	55.6	8.4	15 55.57	3 41.337	0 9.17	3.075
	Star G. . . .	21.5	34.3	47.3	16 34.37	3 38.335		
		30.4	43.4	56.4	16 43.40	3 41.366	0 9.03	3.031
	Star G. . . .	10.7	23.6	36.7	17 23.67	3 38.283		
		19.8	32.5	45.5	6 17 32.60	3 41.377	+0 8.93	− 3.094
Apr. 25		20.3	29.3	38.2	10 35 29.27	5 29.865	−2 2.60	+27.436
	Star G. . . .	22.9	32.0	40.7	37 31.87	2 45.299		
H.		32.1	41.3	50.2	40 41.20	5 29.833	2 2.67	27.451
	Star G. . . .	34.9	44.0	52.7	42 43.87	3 32.467		
		34.1	43.0	51.9	46 43.00	5 29.855	2 2.73	27.444
	Star G. . . .	36.7	45.8	54.7	48 45.73	3 32.496		
		21.5	30.6	39.3	51 30.47	4 37.638	0 23.83	18.257
	Star G. . . .	45.3	54.4	3.2	51 54.30	3 32.458		
		22.1	31.1	40.0	52 31.07	4 37.736	0 23.90	18.327
	Star G. . . .	46.0	55.0	3.9	52 54.97	3 32.486		
		17.5	26.5	35.3	53 26.43	4 37.703	−0 23.87	+18.274
	Star G. . . .	41.3	50.4	59.2	10 53 50.30	3 32.506		

RESULTS.

	α h. m. s.	δ ° ′ ″
Star G.	8 32 22.71	+20 28 40.92

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
G. 1,	+1 44.50	.00	− 7 46.38	− .16
G. 2.	−2 32.92	.00	− 0 1.50	− .00
G. 3,	−1 28.70	.00	− 1 17.13	− .03
G. 4,	+2 14.08	.00	+ 2 5.37	+ .04
G 5,	−1 2.96	.00	− 0 38.87	− .01
G. 6,	+0 51.13	.00	− 4 14.09	− .08
G. 7,	+0 5.14	.00	− 2 12.16	− .04
G. 8,	+0 9.04	.00	− 0 47.04	− .02

	α h. m. s.	δ ° ′ ″
Star G.	8 32 21.83	+20 28 44.02

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
G. 1,	−2 2.67	.00	+ 7 0.91	+ .13
G. 2,	−0 23.86	.00	+ 4 40.52	+ .09
G. 3,	−0 47.47	.00	+ 2 31.76	+ .05
G. 4,	−0 36.19	.00	+ 3 35.82	+ .07
G. 5,	−0 11.49	.00	+ 3 25.72	+ .06
G. 6,	−0 7.42	.00	+ 1 25.78	+ .03
G. 7,	−1 16.80	.00	+ 3 22.74	+ .06

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Apr. 25		15.3	24.5	33.3	10 54 24.37	4 37.782	—0 23.86	+18.303	
	Star G. . . .	39.3	48.3	57.1	10 54 48.23	3 32.556			
H.									
		13.0	22.2	31.0	11 3 22.07	3 42.755	0 47.36	10.198	
	Star G. . . .	0.5	9.6	18.2	4 9.43	3 32.557			
		38.4	47.6	56.3	4 47.43	3 42.804	0 47.47	10.223	
	Star G. . . .	25.9	35.0	43.8	5 34.90	3 32.581			
		57.8	7.0	15.7	6 6.83	3 42.826	0 47.57	10.242	
	Star G. . . .	45.5	54.5	3.2	6 54.40	3 32.584			
		45.0	54.0	2.9	14 53.97	3 45.915	0 36.23	14.063	
	Star G. . . .	21.2	30.2	39.2	15 30.20	3 31.852			
		58.0	7.1	15.9	16 7.60	3 45.898	0 36.13	14.068	
	Star G. . . .	34.2	43.2	52.0	16 43.13	3 31.830			
		14.6	23.6	32.3	17 23.50	3 45.941	0 36.20	14.086	
	Star G. . . .	50.7	59.8	8.6	17 59.70	3 31.855			
		33.0	42.0	50.7	27 41.90	3 45.362	0 11.43	13.447	
	Star G. . . .	44.3	53.5	2.2	27 53.33	2 44.700			
		20.8	29.3	38.5	28 29.53	3 45.293	0 11.64	13.383	
	Star G. . . .	32.2	41.3	50.0	28 41.17	2 44.695			
		3.9	13.0	21.7	29 12.87	3 45.275	0 11.40	13.410	
	Star G. . . .	15.3	24.4	33.1	29 24.27	2 44.650			
		49.9	58.8	7.8	34 58.83	3 37.501	0 7.24	5.587	
	Star G. . . .	57.1	6.1	15.0	35 6.07	3 31.914			
		27.2	36.5	45.2	35 36.30	3 37.530	0 7.47	5.584	
	Star G. . . .	34.8	43.9	52.6	35 43.77	3 31.946			
		7.2	16.3	25.2	36 16.23	3 37.518	0 7.54	5.607	
	Star G. . . .	14.8	23.9	32.6	36 23.77	3 31.911			
		29.2	38.5	47.2	43 38.30	3 45.078	1 16.93	13.122	
	Star G. . . .	46.4	55.3	4.0	44 55.23	2 44.741			
		23.0	31.9	40.7	46 31.87	3 45.324	1 16.73	13.335	
	Star G. . . .	39.7	48.7	57.4	47 48.60	2 44.774			
		2.3	11.4	20.3	49 11.37	3 45.222	—1 16.73	+13.201	
	Star G. . . .	19.1	28.1	37.1	11 50 28.10	2 44.806			
									α h. m. s. / δ ° ′ ″
Apr. 27		34.6	43.7	52.6	10 43 43.63	4 40.196	—1 44.67	+45.809	Star G. 8 32 21.80 / +20 28 44.14
	Star G. . . .	19.3	28.4	37.2	45 28.30	1 37.380			
H.		6.0	15.1	24.0	47 15.03	3 44.077	+1 46.73	36.613	
		48.6	57.7	6.4	48 57.57	4 39.230	+3 29.27	44.843	
		5.7	14.8	23.6	51 14.70	4 40.216	—1 44.60	45.905	
	Star G. . . .	50.4	59.3	8.2	52 59.30	1 37.304			
		37.1	46.1	55.0	54 46.07	3 43.900	+1 46.77	36.512	
		19.7	28.6	37.5	56 28.60	4 39.172	+3 29.30	44.861	
		2.0	11.0	19.9	58 10.97	4 40.186	—1 44.70	45.781	
	Star G. . . .	46.8	55.7	4.5	10 59 55.67	1 37.398			
		33.1	42.3	51.1	11 1 42.17	3 44.038	+1 46.50	36.556	
		15.9	24.9	33.7	3 24.83	4 39.198	+3 29.16	44.793	
		39.7	49.0	57.8	10 48.83	4 36.046	—4 39.90	41.519	
		17.0	26.1	35.0	13 26.03	3 34.938	—2 2.70	27.334	
	Star G. . . .	20.0	28.8	37.4	15 28.73	1 37.520			
		34.9	43.9	52.7	17 43.83	4 36.702	+2 15.10	42.175	
		56.5	5.7	14.3	19 5.50	4 36.227	+3 36.77	41.700	
		19.0	28.1	37.1	21 28.07	4 36.096	—4 39.83	41.529	
		56.1	5.1	14.0	24 5.03	3 34.978	—2 2.87	27.334	
	Star G. . . .	59.0	8.0	16.7	26 7.90	1 37.560			
		14.1	23.1	32.0	28 23.07	4 36.722	+2 15.17	42.155	
		35.8	44.8	53.6	11 29 44.73	4 36.214	+3 36.83	+41.647	

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
G. 1,	—1 44.66	.00	+11 42.94	+.21
G. 2,	+1 46.67	.00	+ 9 20.74	+.19
G. 3,	+3 29.24	.00	+11 27.62	+.21
G. 4,	—4 39.82	.00	+10 37.50	+.21
G. 5,	—2 2.79	.00	+ 6 59.54	+.14
G. 6,	+2 15.16	.00	+10 47.21	+.21
G. 7,	+3 36.78	.00	+10 39.73	+.21
G. 8,	+0 19.90	.00	+10 33.00	+.22
G. 9,	+0 15.75	.00	+ 5 58.92	+.12
G. 10,	+0 45.40	.00	+15 41.46	+.41

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Apr. 27		57.0	6.0	14.9	11 32 5.97	4 36.230	—4 39.73	+41.647	
		33.9	43.1	51.7	34 42.90	3 35.035	—2 2.80	27.375	
H.	Star G. . . .	36.8	45.7	54.6	36 45.70	1 37.576			
		52.0	1.0	9.7	39 0.90	4 36.849	+2 15.20	42.266	
		13.4	22.6	31.3	40 22.43	4 36.370	3 36.73	41.787	
	Star G. . . .	26.6	35.4	44.2	43 35.40	1 37.614			
		46.3	55.3	4.2	43 55.27	4 35.877	0 19.87	41.256	
	Star G. . . .	23.2	32.0	41.0	44 32.07	1 37.589			
		43.0	52.1	0.9	44 52.00	4 35.936	0 19.93	41.340	
	Star G. . . .	18.2	27.2	35.9	45 27.10	1 37.636			
		38.0	47.1	55.9	45 47.00	4 35.864	0 19.90	41.221	
	Star G. . . .	1.3	10.3	19.2	54 10.27	1 37.774			
		16.8	26.2	34.9	54 25.97	2 43.926	0 15.70	23.283	
	Star G. . . .	56.2	5.2	14.0	55 5.13	1 37.820			
		11.9	21.0	29.8	55 20.90	2 44.136	0 15.77	23.447	
	Star G. . . .	52.2	1.3	10.2	56 1.23	1 37.818			
		8.0	17.1	25.9	11 56 17.00	2 44.160	0 15.77	23.473	
	Star G. . . .	34.1	43.1	51.8	12 5 43.00	1 37.918			
		19.4	28.4	37.2	6 28.33	5 39.310	0 45.33	61.393	
	Star G. . . .	57.5	6.4	15.2	7 6.37	1 37.902			
		42.8	51.9	0.6	7 51.77	5 39.260	0 45.40	61.359	
	Star G. . . .	24.1	33.2	42.0	8 33.10	1 37.840			
		9.7	18.6	27.4	12 9 18.57	5 39.237	+0 45.47	+61.398	
May 6		9.7	18.7	27.6	11 11 18.67	3 35.872	—1 1.50	+24.950	Star G. α h. m. s. 8 32 21.65 δ ° ′ ″ +20 28 44.41
	Star G. . . .	11.3	20.2	29.0	12 20.17	1 40.838			
H.									
		9.3	18.5	27.4	14 18.40	3 36.143	1 1.70	24.896	
	Star G. . . .	11.1	20.2	29.0	15 20.10	1 41.163			
		43.8	52.9	1.8	16 52.83	3 36.296	1 1.67	24.971	
	Star G. . . .	45.6	54.5	3.4	17 54.50	1 41.241			
		4.7	13.9	22.5	20 13.70	3 48.751	0 33.77	37.537	
	Star G. . . .	. .	47.5	56.4	20 47.47	1 41.130			
		2.9	12.0	20.8	22 11.90	3 48.734	0 33.47	37.440	
	Star G. . . .	36.4	45.4	54.3	22 45.37	1 41.210			
		15.3	24.4	33.3	23 24.33	3 48.760	0 33.77	37.563	
	Star G. . . .	49.2	58.1	7.0	23 58.10	1 41.113			
		29.9	42.9	55.8	30 42.87	3 46.604	0 8.36	35.276	
	Star G. . . .	38.3	51.2	4.2	30 51.23	1 41.244			
		17.0	30.0	42.9	31 29.97	3 46.634	0 8.40	35.393	
	Star G. . . .	25.5	38.4	51.2	31 38.37	1 41.157			
		6.7	19.7	32.6	32 19.67	3 46.635	0 8.43	35.365	
	Star G. . . .	15.1	28.2	41.0	32 28.10	1 41.186			
		59.1	12.2	25.0	33 12.10	3 46.734	0 8.47	35.333	
	Star G. . . .	7.7	20.6	33.4	33 20.57	1 41.317			
		47.5	0.6	13.5	34 0.53	3 46.777	0 8.44	35.493	
	Star G. . . .	56.0	9.0	21.9	34 8.97	1 41.200			
		32.9	45.9	58.8	30 45.87	3 41.305	0 5.36	30.131	
	Star G. . . .	38.3	51.2	4.2	30 51.23	1 41.090			
		20.0	33.0	46.0	31 33.00	3 41.336	—0 5.37	+30.068	
	Star G. . . .	25.5	38.4	51.2	11 31 38.37	1 41.184			

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
G. 1,	—1 1.62	.00	+ 6 22.50	+ .12
G. 2,	—0 33.67	.00	+ 9 35.35	+ .19
G. 3,	—0 8.42	.00	+ 9 2.51	+ .19
G. 4,	—0 5 39	.00	+ 7 41.26	+ .16
G. 5,	+1 7.70	.00	— 4 59.55	— .12

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.			MIC.	STARS. Δ α		Δ mic.	RESULTS.
		s.	s.	s.	h.	m.	s.	revs.	m.	s.	revs.	
1865.												
May 6		9.8	22.6	35.7	11	32	22.70	3 41.332	—0	5.40	+30.072	
	Star G. . . .	15.1	28.2	41.0		32	28.10	1 41.176				
H.												
		2.2	15.1	28.1		33	15.13	3 41.427	0	5.44	30.086	
	Star G. . . .	7.7	20.6	33.4		33	20.57	1 41.257				
		50.6	3.6	16.5		34	3.57	3 41.295	—0	5.40	+30.014	
	Star G. . . .	56.0	9.0	21.9		34	8.97	1 41.197				
	Star G. . . .	41.3	50.5	59.3		54	50.37	3 37.100				
		49.0	58.2	7.0		55	58.07	2 30.385	+1	7.70	—19.500	
	Star G. . . .	22.4	31.7	40.3		57	31.47	3 37.204				
		30.1	39.4	48.2	11	58	39.23	2 30.447	1	7.76	19.542	
	Star G. . . .	24.8	33.9	42.7	12	1	33.80	3 37.197				
		32.4	41.6	50.3	12	2	41.43	2 30.431	+1	7.63	—19.551	

PLEIADES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 29	19 *e* Taygeta . .	19.5	28.3	36.9	23 17 28.23	2 39.220	−0 37.27	+ 23.132	Corr. Chron. + 0 11.75
	10 (* 62) . . .	41.3	50.3	58.8	17 50.13	2 39.910	0 15.37	22.442	α δ
F.	20 *c* Maia . . .	56.6	5.5	14.4	18 5.50	4 36.555			h. m. s. ° ′ ″
									20 *c* Maia, 3 37 52.00 +23 56 42.18
	19 *e* Taygeta .	14.8	23.6	32.4	21 23.60	2 39.408	0 37.13	23.051	
	10 (* 62) . . .	36.4	45.5	54.3	21 45.40	2 40.159	0 15.33	22.300	19 *e* Taygeta—20 *c* Maia,
	20 *c* Maia . . .	51.9	0.8	9.5	22 0.73	4 36.662			Δ α Δ δ
									h. m. s. m. s. ′ ″
	19 *e* Taygeta . .	5.6	14.3	23.3	24 14.40	2 39.545	0 37.27	23.103	Sid. T. 23 32 31.24 — 0 37.28 + 5 53.47
	10 (* 62) . . .	27.5	36.3	45.3	24 36.37	2 40.155	0 15.30	22.493	Δ ρ .00 + .15
	20 *c* Maia . . .	42.8	51.7	0.5	24 51.67	4 36.851			M. + 13.6 + 53.15
	19 *e* Taygeta . .	44.9	53.9	2.6	26 53.80	2 39.612	0 37.33	23.115	(* 62)—20 *c* Maia,
	10 (* 62) . . .	7.1	15.9	24.4	27 15.80	2 40.315	0 15.33	22.412	h. m. s.
	20 *c* Maia . . .	22.2	31.1	40.1	27 31.13	4 36.930			Sid. T. 23 32 31.24 — 0 15.34 + 5 43.42
									Δ ρ .00 + .14
	19 *e* Taygeta . .	19.6	28.7	37.3	29 28.53	2 39.792	0 37.17	22.963	M. + 13.6 + 53.06
	10 (* 62) . . .	41.5	50.4	59.3	29 50.40	2 40.372	0 15.30	22.383	
	20 *c* Maia . . .	56.7	5.8	14.6	30 5.70	4 36.958			
	19 *e* Taygeta . .	23.3	32.5	40.8	33 32.20	2 39.803	0 37.27	22.892	
	10 (* 62) . . .	45.3	54.3	2.8	33 54.13	2 40.341	0 15.34	22.354	
	20 *c* Maia . . .	0.5	9.7	18.2	34 9.47	4 36.898			
	19 *e* Taygeta . .	36.3	45.3	53.9	36 45.17	2 39.839	0 37.33	22.938	
	10 (* 62) . . .	58.3	7.1	16.1	37 7.17	2 40.512	0 15.33	22.265	
	20 *c* Maia . . .	13.6	22.5	31.4	37 22.50	4 36.980			
	19 *e* Taygeta . .	34.4	43.4	52.0	39 43.27	2 39.855	0 37.33	22.987	
	10 (* 62) . . .	56.3	5.2	13.9	40 5.13	2 40.430	0 15.47	22.412	
	20 *c* Maia . . .	11.7	20.6	29.5	40 20.60	4 37.045			
	19 *e* Taygeta . .	15.4	24.6	33.2	42 24.40	2 40.125	0 37.40	23.150	
	10 (* 62) . . .	37.6	46.4	55.5	42 46.50	2 40.855	0 15.30	22.420	
	20 *c* Maia . . .	52.9	1.8	10.7	43 1.80	4 37.478			
	19 *e* Taygeta . .	59.7	8.5	17.2	45 8.47	2 40.168	0 37.30	23.137	
	10 (* 62) . . .	21.4	30.3	39.6	45 30.43	2 40.879	−0 15.34	+ 22.426	
	20 *c* Maia . . .	36.8	45.7	54.8	23 45 45.77	4 37.508			
									m. s.
Oct. 2	20 *c* Maia . . .	3.8	12.7	21.7	22 46 12.73	4 42.899			Corr. Chron. + 0 13.88
	21 *k* Asterope . .	8.1	16.5	26.2	46 16.93	1 41.913	+0 4.20	+ 43.936	α δ
F.	22 *l*	17.0	26.0	34.4	46 25.80	1 48.049	0 13.07	37.800	h. m. s. ° ′ ″
									20 *c* Maia, 3 37 52.07 +23 56 42.44
	20 *c* Maia . . .	37.8	46.7	55.5	48 46.67	4 42.983			
	21 *k* Asterope . .	42.1	50.9	59.5	48 50.83	1 42.005	0 4.16	43.928	21 *k* Asterope—20 *c* Maia,
	22 *l*	51.4	59.8	8.4	48 59.87	1 48.076	0 13.20	37.857	Δ α Δ δ
									h. m. s. m. s. ′ ″
	20 *c* Maia . . .	2.2	10.9	19.8	51 10.97	4 43.099			Sid. T. 22 56 31.06 + 0 4.13 +11 13.13
	21 *k* Asterope . .	6.5	15.2	24.5	51 15.40	1 42.180	0 4.43	43.869	Δ ρ + .01 + .34
	22 *l*	. .	23.8	32.8	51 23.85	1 48.190	0 12.88	37.859	M. + 13.57 + 52.74
	20 *c* Maia . . .	23.9	32.7	41.8	53 32.80	4 43.110			22 *l*—20 *c* Maia,
	21 *k* Asterope . .	28.3	37.1	45.8	53 37.07	1 42.173	0 4.27	43.887	h. m. s.
	22 *l*	37.4	46.2	54.6	22 53 46.07	1 48.499	0 13.27	37.561	Sid. T. 22 56 31.06 + 0 13.03 + 9 38.20
									Δ ρ + .01 + .30
	20 *c* Maia . . .	58.8	7.8	16.4	23 0 7.67	4 43.469			M. + 13.57 + 52.70
	21 *k* Asterope . .	2.9	11.5	20.6	0 11.67	1 42.662	0 4.00	43.757	
	22 *l*	11.8	20.8	29.3	0 20.63	1 48.906	0 12.96	37.513	A. 12—20 *c* Maia,
	A. 12 . . .	7.7	16.8	25.5	1 16.67	1 49.821	1 9.00	36.598	h. m. s.
									Sid. T. 23 4 59.58 + 1 9.04 + 9 20.61
	20 *c* Maia . . .	52.2	1.3	9.9	5 1.13	4 43.760			Δ ρ + .01 + .27
	21 *k* Asterope . .	56.4	5.1	14.0	5 5.17	1 42.688	0 4.04	44.022	M. + 13.58 + 52.47
	22 *l*	5.3	14.2	22.7	5 14.07	1 48.919	0 12.94	37.791	
	A. 12 . . .	1.3	10.3	19.2	6 10.27	1 50.082	1 9.13	36.628	
	20 *c* Maia . . .	59.5	8.2	17.2	9 8.30	4 43.770			
	21 *k* Asterope . .	3.4	12.2	20.8	9 12.13	1 42.903	0 3.83	43.817	
	22 *l*	12.4	21.3	29.8	9 21.17	1 49.199	0 12.87	37.521	
	A. 12 . . .	8.5	17.3	26.1	23 10 17.30	1 50.289	+1 9.00	+ 36.431	

PLEIADES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 20	A. 4	53.6	2.6	11.2	23 51 2.47	2 33.058	−0 11.50	− 7.763
	A. 6	57.1	6.2	15.3	51 6.20	3 31.462	0 7.77	18.933
F.	63 * 11	0.5	9.6	18.4	51 9.50	4 34.679	0 4.47	35.181
	20 *c* Maia	4.8	13.9	23.2	51 13.97	2 25.295		
	A. 4	26.8	35.7	44.3	54 35.60	2 33.149	0 11.57	7.580
	A. 6	30.3	39.2	48.1	54 39.20	3 31.410	0 7.97	18.607
	63 * 11	33.6	42.6	50.7	54 42.30	4 34.565	0 4.87	34.793
	20 *c* Maia	38.3	47.1	56.1	54 47.17	2 25.569		
	A. 4	36.2	45.2	53.7	57 45.03	2 33.207	0 11.67	7.642
	A. 6	39.8	48.5	57.5	57 48.60	3 31.579	0 8.10	18.780
	63 * 11	43.1	51.8	0.9	57 51.93	4 34.572	0 4.77	34.804
	20 *c* Maia	48.0	56.5	5.6	23 57 56.70	2 25.565		
	A. 4	18.0	27.0	35.8	0 0 26.93	2 33.335	0 11.47	7.756
	A. 6	21.6	30.3	39.2	0 30.37	3 31.680	0 8.03	18.867
	63 * 11	24.9	33.9	42.8	0 33.87	4 34.558	−0 4.53	− 34.776
	20 *c* Maia	29.4	38.5	47.3	0 0 38.40	2 25.579		
Nov. 13	* 64	8.1	16.5	25.9	23 6 16.83	4 46.789	−1 4.04	− 18.391
	* 65	19.4	28.2	37.4	6 28.33	2 46.789	0 52.54	+ 7.406
F.	* 66	43.4	52.2	1.1	6 52.23	2 49.995	−0 28.64	+ 4.200
	17 *b* Electra	11.8	21.0	29.8	7 20.87	3 41.429		
	* 67	23.8	32.5	41.4	8 32.57	4 43.902	+1 11.70	− 15.504
	* 68	27.8	36.6	45.6	8 36.66	4 40.149	+1 15.79	11.751
	* 64	57.8	6.8	15.7	14 6.77	4 47.264	−1 3.96	− 18.510
	* 65	9.2	17.9	26.7	14 17.93	2 47.264	0 52.80	+ 7.287
	* 66	32.9	41.8	50.8	14 41.83	2 50.195	−0 28.90	+ 4.356
	17 *b* Electra	1.8	10.8	19.6	15 10.73	3 41.785		
	* 67	13.6	22.5	31.3	16 22.47	4 43.980	+1 11.74	− 15.226
	* 68	17.4	26.4	35.3	16 26.37	4 40.404	+1 15.64	11.650
	* 64	57.2	6.2	14.9	22 6.10	4 47.489	−1 3.73	− 18.315
	* 65	8.2	17.2	25.8	22 17.07	2 47.489	0 52.76	+ 7.482
	* 66	32.1	41.2	50.0	22 41.10	2 50.385	−0 28.73	+ 4.486
	17 *b* Electra	0.8	10.1	18.6	23 9.83	3 42.205		
	* 67	12.5	21.6	30.5	24 21.53	4 44.509	+1 11.70	− 15.335
	* 68	16.5	25.6	34.5	24 25.53	4 40.720	+1 15.70	11.546
	* 64	30.1	39.1	47.8	28 39.00	4 47.669	−1 3.83	− 18.548
	* 65	41.2	50.2	59.0	28 50.13	2 47.669	0 52.70	+ 7.249
	* 66	4.9	13.9	22.8	29 13.87	2 50.708	−0 28.96	+ 4.210
	17 *b* Electra	33.9	42.8	51.8	29 42.83	3 42.152		
	* 67	45.6	54.5	3.2	30 54.43	4 44.752	+1 11.60	− 15.631
	* 68	49.4	58.6	7.6	30 58.53	4 40.959	+1 15.70	11.838
	* 64	29.3	38.1	46.9	37 38.10	4 48.084	−1 3.77	− 18.521
	* 65	40.2	49.3	58.1	37 49.20	2 48.084	0 52.67	+ 7.276
	* 66	4.2	13.3	21.8	38 13.10	2 50.987	−0 28.77	+ 4.373
	17 *b* Electra	31.9	41.9	50.8	38 41.87	3 42.594		
	* 67	44.3	53.4	2.5	39 53.40	4 45.159	+1 11.53	− 15.596
	* 68	48.5	57.7	6.4	23 39 57.53	4 41.352	+1 15.66	− 11.789
Nov. 13	* 69	42.5	51.5	0.4	23 48 51.47	4 49.330	−0 39.20	− 19.563
	* 70	44.2	53.1	1.8	48 53.03	3 45.930	0 37.64	3.132
F.	17 *b* Electra	21.4	30.9	39.7	23 49 30.67	3 42.798		
	* 69	23.3	32.6	41.3	0 0 32.40	4 49.845	0 39.10	19.791
	* 70	25.1	34.2	45.7	0 35.00	3 46.162	0 36.50	3.067
	* 71	54.2	3.2	. .	1 3.15	4 42.529	0 7.35	12.475
	17 *b* Electra	2.5	11.6	20.4	1 11.50	3 43.085		
	* 69	1.9	11.2	20.2	4 11.10	4 50.365	0 38.97	20.047
	* 70	3.7	12.5	21.3	4 12.50	3 46.409	0 37.57	3.060
	* 71	33.1	42.1	. .	4 42.00	4 42.720	−0 8.07	− 12.402
	17 *b* Electra	40.9	50.3	59.0	0 4 50.07	3 43.349		

RESULTS.

Corr. Chron. + 0 m. 49.70 s.

	α h. m. s.	δ ° ′ ″
20 *c* Maia,	3 37 52.48	+23 56 43.59

Sid. T. 23 56 58.76

	Δ α m. s.	Δ δ ′ ″
A. 4—20 *c* Maia,	− 0 11.55	− 1 57.38
Δ ρ	.00	− .04
M.	+ 13.15	+ 51.29
A. 6—20 *c* Maia,	− 0 7.97	− 4 48.29
Δ ρ	.00	− .11
M.	+ 13.15	+ 51.24
* 63—20 *c* Maia,	− 0 4.66	− 8 55.11
Δ ρ	.00	− .15
M.	+ 13.14	+ 51.22

Corr. Chron. + 1 m. 48.25 s.

	α h. m. s.	δ ° ′ ″
17 *b* Electra,	3 36 56.73	+23 41 20.46

Sid. T. 23 24 37.48

	Δ α m. s.	Δ δ ′ ″
* 64—17 *b* Electra,	− 1 3.87	− 4 43.08
Δ ρ	.00	− .12
M.	+ 12.74	+ 50.26
* 65—17 *b* Electra,	− 0 52.69	+ 1 52.58
Δ ρ	.00	+ .05
M.	+ 12.75	+ 50.21
* 66—17 *b* Electra,	− 0 28.80	+ 1 6.33
Δ ρ	.00	+ .03
M.	+ 12.75	+ 50.21
* 67—17 *b* Electra,	+ 1 11.65	− 3 58.84
Δ ρ	.00	− .10
M.	+ 12.74	+ 49.63
* 68—17 *b* Electra,	+ 1 15.70	− 2 59.67
Δ ρ	.00	− .07
M.	+ 12.76	+ 49.61
* 69—17 *b* Electra,	− 0 39.09	− 5 3.68
Δ ρ	− .00	− .11
M.	+ 12.74	+ 50.17
* 70—17 *b* Electra,	− 0 37.24	− 0 47.33
Δ ρ	.00	− .02
M.	+ 12.75	+ 50.17
* 71—17 *b* Electra,	− 0 7.71	− 3 10.76
Δ ρ	.00	− .06
M.	+ 12.75	+ 50.04

PLEIADES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 15	* 72	17.9	27.2	. .	23 50 27.05	1 43.079	−0 52.05	− 10.057	Corr. Chron. + 1 55.20
	* 73	32.8	41.8	50.8	50 41.80	1 43.632	0 37.30	10.610	α δ
F.	* 74	39.1	48.0	56.7	50 47.93	1 37.449	−0 31.17	− 4.427	h. m. s. ° ′ ″
	16 *g* Celæno	10.6	19.0	27.7	51 19.10	1 33.022			16 *g* Celæno, 3 36 52.07 +23 51 55.08
	A. 6	3.2	12.2	20.8	52 12.07	1 32.648	+0 52.97	+ 0.374	17 *b* Electra, 3 36 56.75 +23 41 20.55
	* 72	8.4	16.9	25.8	58 17.03	2 26.375	−0 51.74	− 10.041	h. m. s.
	* 73	22.6	31.8	40.2	58 31.53	2 26.930	0 37.24	10.596	Sid. T. 0 8 16.51
	* 74	29.2	37.8	46.5	58 37.83	1 38.008	−0 30.94	− 4.521	Δ α Δ δ
	16 *g* Celæno	59.9	8.8	17.6	23 59 8.77	1 33.487			m. s. ′ ″
	A. 6	53.3	2.2	10.9	0 0 2.13	1 32.940	+0 53.36	+ 0.547	* 72—16 *g* Celæno, − 0 51.99 − 2 33.88
									Δ ρ .00 − .05
	* 72	13.3	22.2	31.2	4 22.23	1 43.498	−0 51.77	− 10.223	M. + 12.73 + 50.16
	* 73	27.6	36.6	45.3	4 36.50	1 44.091	0 37.50	10.816	
	* 74	34.2	42.9	51.7	4 42.93	1 37.470	−0 31.07	− 4.195	* 73—16 *g* Celæno, − 0 37.48 − 2 41.73
	16 *g* Celæno	5.1	14.1	22.8	5 14.00	1 33.275			Δ ρ .00 − .06
	A. 6	58.2	7.3	15.9	6 7.13	1 32.892	+0 53.13	+ 0.383	M. + 12.73 + 50.10
	* 72	16.5	25.4	34.3	11 25.40	1 43.609	−0 52.10	− 9.784	* 74—16 *g* Celæno, − 0 31.18 − 1 7.01
	* 73	30.8	39.6	48.6	11 39.67	1 44.029	0 37.83	10.204	Δ ρ .00 − .02
	* 74	36.9	46.2	55.1	11 46.07	1 38.176	−0 31.43	− 4.351	M. + 12.74 + 50.08
	16 *g* Celæno	8.5	17.8	26.2	12 17.50	1 33.825			
	A. 6	1.6	10.6	19.3	13 10.50	1 33.375	+0 53.00	+ 0.450	A. 6—16 *g* Celæno, + 0 53.11 + 0 6.61
									Δ ρ .00 .00
	* 72	45.9	55.1	3.8	22 54.93	1 44.163	−0 52.27	− 10.063	M. + 12.75 + 49.76
	* 73	0.7	9.7	18.6	23 9.67	1 44.601	0 37.53	10.501	
	* 74	7.0	15.9	24.8	23 15.90	1 38.449	−0 31.30	− 4.349	h. m. s.
	16 *g* Celæno	38.1	47.3	56.2	23 47.20	1 34.100			Sid. T. 0 48 34.29
	A. 6	31.4	40.3	49.1	0 24 40.27	1 33.698	+0 53.07	+ 0.402	* 75—17 *b* Electra, − 0 51.66 −14 3.89
									Δ ρ .00 − .31
									M. + 12.71 + 50.13
Nov. 15	* 75	34.1	43.0	52.3	0 39 43.13	5 40.410	−0 51.60	− 54.693	
	17 *b* Electra	25.8	34.8	43.6	40 34.73	1 45.683			* 76—17 *b* Electra, + 0 2.87 −11 35.55
F.	* 76	28.4	37.5	46.3	40 37.40	4 47.813	+0 2.67	45.080	Δ ρ .00 − .26
									M. + 12.74 + 49.92
	* 75	59.9	8.8	16.9	44 8.53	5 40.600	−0 51.97	55.134	
	17 *b* Electra	51.5	0.6	9.4	45 0.50	1 45.432			
	* 76	54.3	3.6	12.2	45 3.37	4 48.043	+0 2.87	45.561	
	* 75	44.1	52.9	2.0	47 53.00	5 40.582	−0 51.40	54.786	
	17 *b* Electra	34.9	44.8	53.5	48 44.40	1 45.762			
	* 76	38.5	47.5	56.5	48 47.50	4 48.110	+0 3.10	45.298	
	* 75	16.2	25.1	33.9	51 25.07	5 40.990	−0 51.66	55.216	
	17 *b* Electra	7.8	16.8	25.6	52 16.73	1 45.740			
	* 76	10.7	19.6	28.4	0 52 19.37	4 48.251	+0 2.84	− 45.461	
Nov. 24	* 77	5.6	14.3	23.3	23 53 14.40	2 37.936	−0 57.00	− 10.796	m. s.
	* 78	19.3	28.2	37.1	53 28.20	2 31.179	0 43.20	4.039	Corr. Chron. + 2 22.13
F.	* 79	58.6	7.5	16.3	54 7.47	3 28.179	0 3.93	13.805	α δ
	16 *g* Celæno	2.4	11.4	20.4	23 54 11.40	2 27.140			h. m. s. ° ′ ″
									16 *g* Celæno, 3 36 52.15 +23 51 55.44
	* 77	0.8	9.9	18.5	0 0 9.73	2 37.908	0 57.20	10.638	
	* 78	. .	23.9	32.6	0 23.78	2 31.189	0 43.15	3.919	h. m. s.
	* 79	54.0	3.2	11.6	1 2.93	3 28.435	0 4.00	13.931	Sid. T. 0 7 57.92
	16 *g* Celæno	58.1	7.0	15.7	1 6.93	2 27.270			Δ α Δ δ
									m. s. ′ ″
	* 77	59.5	8.4	17.3	5 8.40	2 38.230	0 57.20	10.835	* 77—16 *g* Celæno, − 0 57.12 − 2 45.44
	* 78	13.5	22.5	31.5	5 22.50	2 31.292	0 43.10	3.897	Δ ρ .00 − .06
	* 79	52.8	1.8	10.4	6 1.67	3 28.558	0 3.93	13.929	M. + 12.64 + 49.82
	16 *g* Celæno	56.7	5.7	14.4	6 5.60	2 27.395			* 78—16 *g* Celæno, − 0 43.08 − 0 59.78
									Δ ρ .00 − .02
	* 77	32.3	41.1	49.8	9 41.07	2 38.208	0 57.06	10.752	M. + 12.65 + 49.77
	* 78	46.5	55.3	4.1	9 55.30	2 31.371	0 42.83	3.915	
	* 79	25.3	34.4	43.1	10 34.27	3 28.663	0 3.86	13.973	* 79—16 *g* Celæno, − 0 3.94 − 3 33.54
	16 *g* Celæno	28.8	38.3	47.3	10 38.13	2 27.456			Δ ρ .00 − .06
									M. + 12.65 + 49.61
	* 77	50.8	0.2	8.5	14 59.83	2 38.513	0 57.14	10.913	
	* 78	5.0	13.8	22.8	15 13.87	2 31.320	0 43.10	3.720	
	* 79	44.1	53.1	1.8	15 53.00	3 28.810	−0 3.97	− 13.976	
	16 *g* Celæno	48.0	57.1	5.8	0 15 56.97	2 27.600			

(Continued.)

PLEIADES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1865.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 24	23 *d* Merope . . .	57.9	6.9	15.8	0 44 6.97	1 41.752			m. s.
	* 80	11.0	. .	28.7	44 19.85	2 45.141	+0 12.98	— 20.542	Corr. Chron. + 2 22.13
F.	* 81	16.5	. .	34.1	44 25.30	4 36.390	0 18.43	37.588	α δ
	* 82	48.9	57.9	6.9	44 57.87	4 37.732	0 51.00	38.930	h. m. s. ° ′ ″
	* 83	55.3	4.1	12.9	45 4.10	3 42.222	0 57.23	30.389	23 *d* Merope, 3 38 24.36 +23 31 39.3
	23 *d* Merope . . .	26.9	35.9	44.8	48 35.87	1 41.839			h. m. s.
	* 80	40.1	49.1	57.8	48 49.00	2 45.263	0 13.13	20.577	Sid. T. 0 54 17.43
	* 81	45.2	54.2	3.5	48 54.30	3 49.682	0 18.43	37.762	Δ α Δ δ
	* 82	18.3	27.1	35.8	49 27.07	3 50.975	0 51.20	39.055	m. s. ′
	* 83	24.5	33.3	42.2	49 33.33	3 42.149	0 57.46	30.229	* 80—23 *d* Merope, + 0 12.94 — 5 16.2
									Δ ρ .00 — .1
									M. + 12.63 + 49.31
	23 *d* Merope . . .	41.5	50.6	59.5	54 50.53	1 41.780			
	* 80	54.9	3.5	12.4	55 3.60	2 45.405	0 13.07	20.778	* 81—23 *d* Merope, + 0 18.35 — 9 38.1
	* 81	0.2	9.4	18.0	55 9.20	4 36.545	0 18.67	37.715	Δ ρ .00 — .1
	* 82	32.7	41.6	50.4	55 41.57	4 38.260	0 51.04	39.430	M. + 12.63 + 49.1
	* 83	38.9	48.0	57.8	0 55 48.23	3 42.425	0 57.70	30.564	
									* 82—23 *d* Merope, + 0 50.93 —10 0.3
	23 *d* Merope . . .	58.6	7.7	17.5	1 0 7.93	1 42.060			Δ ρ .00 — .2
	* 80	11.8	20.4	29.3	0 20.50	2 45.500	0 12.57	20.593	M. + 12.63 + 49.6
	* 81	16.4	25.9	35.1	0 25.80	4 36.828	0 17.87	37.718	
	* 82	49.5	58.4	7.4	0 58.43	4 38.240	0 50.50	39.130	* 83—23 *d* Merope, + 0 57.33 — 7 15.1
	* 83	56.0	4.9	13.7	1 1 4.87	3 42.575	+0 56.94	— 30.434	Δ ρ .00 — .1
									M. + 12.64 + 49.0
Nov. 27	23 *d* Merope . . .	46.5	55.3	4.2	0 37 55.33	3 36.895			m. s.
	* 84	. .	10.8	19.6	38 10.78	3 33.852	+0 15.45	+ 3.043	Corr. Chron. + 2 32.0
F.	* 85	27.5	36.6	45.3	39 36.47	4 39.349	1 41.14	— 15.485	α δ
	* 86	43.5	52.5	1.5	39 52.50	4 36.422	1 57.17	12.558	h. m. s. ° ′ ″
									23 *d* Merope, 3 38 24.36 +23 31 39.3
	23 *d* Merope . . .	36.7	45.7	54.5	44 45.63	3 37.190			h. m. s.
	* 85	17.8	26.4	. .	46 26.53	4 39.350	1 40.90	15.191	Sid. T. 0 54 45.70
	* 86	33.8	42.8	51.8	46 42.80	4 36.352	1 57.17	— 12.193	Δ α Δ δ
									m. s. ′
	23 *d* Merope . . .	52.7	1.6	10.8	52 1.70	3 37.345			* 84—23 *d* Merope, + 0 15.42 + 0 50.3
	* 84	. .	17.2	26.0	52 17.10	3 34.070	0 15.40	+ 3.275	Δ ρ .00 + .0
	* 85	34.1	42.9	51.7	53 42.90	4 39.910	1 41.20	— 15.596	M. + 12.62 + 49.1
	* 86	. .	59.1	7.9	53 59.10	4 36.470	1 57.40	— 12.156	
									* 85—23 *d* Merope, + 1 41.20 — 3 58.1
	23 *d* Merope . . .	44.0	52.8	1.6	0 59 52.80	3 37.643			Δ ρ .00 — .0
	* 84	59.4	8.2	17.3	1 0 8.30	3 34.152	0 15.50	+ 3.491	M. + 12.62 + 48.7
	* 85	25.4	34.1	42.9	1 34.14	4 39.869	1 41.34	— 15.257	
	* 86	41.3	50.3	59.2	1 50.27	4 36.720	1 57.47	— 12.108	* 86—23 *d* Merope, + 1 57.41 — 3 58.4
									Δ ρ .00 — .0
									M + 12.62 + 48.6
	23 *d* Merope . . .	24.1	33.2	41.8	6 33.03	3 37.482			
	* 84	39.4	48.5	57.2	6 48.37	3 34.150	0 15.34	+ 3.332	
	* 85	5.5	14.5	23.3	8 14.43	4 40.041	1 41.40	— 15.590	
	* 86	21.4	30.6	39.4	1 8 30.47	4 36.868	+1 57.44	— 12.417	
									m. s.
Dec. 8	* 91	22.9	31.8	40.8	1 1 31.83	2 32.142	—0 51.64	+ 20.164	Corr. Chron. + 1 20.91
	* 92	11.4	20.1	29.2	2 20.23	3 28.125	—0 3.24	11.415	α δ
F.	17 *b* Electra . . .	14.6	23.5	32.3	2 23.47	4 26.509			h. m. s. ° ′ ″
	* 93	41.6	50.7	59.3	2 50.53	2 36.852	+0 27.06	15.454	17 *b* Electra, 3 36 55.92 +23 41 21.2
									h. m. s.
	* 91	14.5	23.1	32.1	16 23.23	2 40.360	—0 51.77	20.257	Sid. T. 1 15 55.33
	* 92	3.2	11.9	29.5	17 11.53	3 36.571	—0 3.47	11.280	Δ α Δ δ
	17 *b* Electra . . .	6.1	15.1	23.8	17 15.00	4 34.820			m. s. ′
	* 93	33.4	42.1	51.2	17 42.23	3 32.120	+0 27.23	15.731	* 91—17 *b* Electra, — 0 51.70 + 5 12.0
									Δ ρ .00 + .1
									M. + 12.57 + 49.3
	* 91	4.4	13.1	21.8	23 13.10	2 40.115	—0 51.70	20.614	
	* 92	52.8	1.8	10.5	24 1.70	3 36.400	—0 3.10	11.563	* 92—17 *b* Electra, — 0 3.27 + 2 53.1
	17 *b* Electra . . .	55.8	4.9	13.7	24 4.80	4 34.932			Δ ρ .00 + .0
	* 93	23.3	31.5	40.6	1 24 31.80	3 32.531	+0 27.00	+ 15.432	M. + 12.57 + 49.1
									* 93—17 *b* Electra, + 0 27.10 + 3 56.3
									Δ ρ .00 + .0
									M. + 12.57 + 49.0

OCCULTATIONS OF STARS BY THE MOON, 1865.

DATE.	OBJECTS.	PHASE.	CHRON. TIME.	CORR. CHRON.	MEAN TIME.	OBS'R.
1865.			h. m. s.	m. s.	h. m. s.	
Jan. 12	A^1 Cancri	Immersion	6 53 22.0 sid.	+ 4 28.4	11 27 8.9	H.
Feb. 2	σ Arietis	Immersion	2 18 20.0 sid.	+ 5 50.7	5 31 39.9	H.
May 7	B. A. C. 2394	Immersion	11 39 14.8 sid.	— 1 14.9	8 34 23.1	H.
Sept. 11	115 Tauri	Emersion	23 46 12.3 sid.	— 0 7.8	12 21 8.0	F.
29	B. A. C. 6992	Immersion	0 37 38.7 sid.	+ 0 11.1	12 1 58.8	F.
29	β Capricorni	Immersion	0 44 57.9 sid.	+ 0 11.1	12 9 16.5	F.
Oct. 12	60 Cancri	Immersion	15 26 48.8 mean.	— 3 58.0	15 22 50.8	H.
12	60 Cancri	Emersion	16 19 22.3 mean.	3 58.2	16 15 24.1	H.
12	α Cancri	Immersion	16 52 17.3 mean.	3 58.4	16 48 18.9	H.
12	α Cancri	Emersion	17 42 32.8 mean.	— 3 58.6	17 38 34.2	H.

ECLIPSE OF THE SUN, OCTOBER 18, 1865.

		CHRON. TIME.	CORR. CHRON.	MEAN TIME.	OBS'R.
		h. m. s.	h. m. s.	h. m. s.	
First contact	Equatorial	20 42 28.4	—0 5 11.86	20 37 16.54	F.
First contact	Comet seeker	1 34 15.0	4 57 2.0	21 37 13.00	H.
Spot near place 1, contact	Comet seeker	1 35 50.0	—4 57 2.0	21 38 48.00	H.

NOTE.—A short time before the first contact it was discovered that the Chronograph would not work. The observations were all made by eye and ear with Chronometers. The rest of the day was cloudy until after the last contact.

ADOPTED MEAN PLACES FOR 1870.0

OF

COMPARISON STARS,

USED IN

OBSERVATIONS WITH THE EQUATORIAL,

1865.

ADOPTED MEAN PLACES FOR 1870.0

OF STARS OF COMPARISON, OBSERVED WITH ASTEROIDS AND COMETS, 1865.

ADOPTED MEAN PLACES FOR 1870.0 OF COMPARISON STARS.

STAR.	MAG.	α	AUTHORITY.	δ	AUTHORITY.
			EUTERPE.		
		h. m. s.		° ′ ″	
Weisse 2, VI. 1172	8	6 38 56.23	T. 3	+ 23 48 53.13	Weisse 2, Catalogue.
Weisse 2, VI 935	8	6 32 10.44	T. 5	+ 23 47 41.02	Weisse 2, Catalogue.
			LEDA.		
Weisse 2, VII, 1305	7	7 46 33.95	T. 5	+ 21 26 29.66	Weisse Catalogue.
Weisse 2, VII, 1143	8	7 40 16.03	T. 5	21 21 11.56	Weisse Catalogue.
Weisse 2, VII, 1022	9	7 35 31.24	T. 2	21 12 27.93	Weisse Catalogue.
Weisse 2, VII, 915	9	7 32 0.81	T. 1	+ 20 55 29.20	M. 1.
			DORIS.		
Weisse VII, 1624	9	7 56 10.33	T. 3	+ 11 42 38.70	M. 1.
(* 133) W.	8.5	7 49 45.41	T. 5	12 2 1.56	M. 1.
Weisse VII, 1477	9	7 50 51.58	Weisse Catalogue	+ 12 22 36.02	Weisse Catalogue.
			COMET 1864, IV, (BŒKER'S.)		
Lalande 45028	8	22 55 5.04	T. 7	— 4 31 59.60	Lalande Catalogue.
Weisse XXII, 1223	9	22 58 44.77	T. 5	4 57 0.62	Weisse Catalogue.
Weisse XXII, 1248	9	22 59 57.90	T. 6	4 54 4.23	M. 2.
B. A. C. 8184	7	23 22 48.75	T. 3	5 14 23.43	M. 2.
Lalande 46609	8	23 40 58.27	T. 4	5 10 58.86	Lalande Catalogue.
Weisse XXIII, 848	7.5	23 42 4.70	T. 3	5 9 27.00	M. 3.
Weisse XXIII, 1099	7	23 54 20.42	T. 6	5 38 58.10	M. 3.
B. A. C. 138	7	0 27 52.46	T. 6	5 15 48.65	M.
B. A. C. 291	6.5	0 56 28.07	T. 1	5 31 53.83	M.
Weisse O, 935	7.5	0 54 26.02	T. 4	— 5 20 48.53	M. 3.
			ANGELINA.		
Weisse 2, VIII, 221	8.5	8 11 27.68	T. 5	+ 20 22 46.40	M. 1.
Weisse 2, VIII, 83	8	8 5 48.77	T. 2	+ 20 40 16.25	M. 2.
			VESTA.		
Weisse XI, 785	7	11 46 14.97	T. 9	+ 14 8 41.45	M. 2.
			PALES.		
Weisse X, 664	8.5	10 38 15.79	T. 3	+ 5 1 16.80	M. 1.
			FLORA.		
Santini 830	7.5	12 4 23.55	T. 2	+ 9 26 25.00	M. 1.
			HEBE.		
Weisse XII, 497	8	12 30 49.01	T. 1	+ 13 41 56.12	Weisse Catalogue.
Weisse XII, 311	9	12 20 17.43	T. 1	+ 14 45 54.41	Weisse Catalogue.
			EURYNOME.		
Weisse XI, 562	9	11 33 6.02	T. 1	— 0 43 12.79	Weisse Catalogue.
Lalande 21911	8	11 25 38.69	T. 4	+ 0 18 33.20	M. 1.
Durchmusterung 2799	9.5	11 25 16.03	T. 1	+ 0 43 28.80	M. 1.
			AUSONIA.		
B. A. C. 4418	5	13 5 8.56	T. 3	— 15 29 40.39	B. A. Catalogue.
Oeltzen S. 12630	9	12 58 25.00	T. 2	14 53 57.34	Oeltzen S. Catalogue.
Oeltzen S. 12626	9	12 58 8.55	T. 2	— 14 48 1.43	Oeltzen S. Catalogue.

ADOPTED MEAN PLACES FOR 1870.0 OF COMPARISON STARS.

STAR.	MAG.	α	AUTHORITY.	δ	AUTHORITY.
			EGERIA.		
		h. m. s.		° ′ ″	
Oeltzen S. 15134	7	15 54 36.39	T. 3	— 25 46 53.15	M. 2.
B. A. C. 5314	6	15 55 29.48	T. 2	25 30 1.60	M. 1.
π Scorpii	4	15 50 59.41	Green. 12, Y	25 44 13.40	M. 1.
Oeltzen S. 14864	8.5	15 39 27.90	Oeltzen S. Catalogue	— 26 40 50.15	M. 2.
			POMONA.		
Oeltzen S. 15398	7.5	16 5 57.53	T. 3	— 17 45 54.27	M. 3.
Oeltzen S. 15342	8	16 3 46.93	T. 2	17 46 27.73	M. 2.
Oeltzen S. 15294	9	16 1 57.01	T. 1	17 0 10.35	M. 2.
Oeltzen S. 15067	8	15 50 33.71	T. 1	16 42 27.54	Oeltzen S. Catalogue.
Oeltzen S. 15061	9	15 50 17.59	T. 1	— 16 25 55.55	M. 2.
			THEMIS.		
Oeltzen S. 15179	9	15 56 57.65	Oeltzen S. Catalogue	— 20 59 30.60	M. 1.
			FERONIA.		
Weisse XVIII, 1314	8	18 52 52.89	T. 5	— 12 46 49.00	M. 3.
Weisse XVIII, 993	7	18 40 27.88	T. 6	12 28 2.27	M. 3.
Weisse XVIII, 792	9	18 33 18.41	T. 2	12 49 10.27	M. 3.
Weisse XVIII, 696	8	18 30 13.71	T. 5	— 12 47 17.90	M. 1.
			MELETE.		
Weisse XVII, 755	8	17 39 28.00	T. 4	— 7 55 34.27	M. 4.
Weisse XVII, 779	9	17 40 5.22	T. 3	8 1 12.07	M. 2.
Weisse XVII, 713	9	17 37 31.00	T. 2	7 47 45.55	M. 2.
Weisse XVII, 697	9	17 36 56.54	T. 4	— 7 57 44.03	M. 2.
			ASIA.		
Weisse XVIII, 779	7	18 32 43.55	T. 4	— 11 13 5.17	M. 2.
Weisse XVIII, 570	9	18 25 4.84	T. 4	— 11 22 47.47	M. 3.
			HESTIA.		
Oeltzen S. 20595	9	20 25 43.30	T. 1	— 15 30 58.47	M. 3.
B. A. C. 7063	6.5	20 23 47.18	Washington Observatory	15 29 17.43	Washington Observatory.
Oeltzen S. 20442	8	20 14 52.73	T. 5	16 2 9.53	M. 3.
Oeltzen S. 20320	8	20 5 50.68	Oeltzen S. Catalogue	— 17 16 3.57	M. 3.
			CIRCE.		
Weisse XXI, 623	9	21 27 30.07	T. 3	— 8 47 30.63	Weisse Catalogue.
Weisse XXI, 543	9	21 24 31.36	T. 3	9 18 45.57	M. 4.
Weisse XXI, 506	9	21 23 1.81	T. 3	— 9 10 7.75	M. 4.
			URANIA.		
Weisse XXI, 1087	9	21 47 17.62		— 11 58 31.17	M. 4.
Weisse XXI, 1002	9	21 43 4.85		12 12 40.83	M. 3.
Weisse XXI, 933	8	21 39 41.44		— 12 17 28.97	M. 2.
			DANÆ.		
Oeltzen S. 21550	8.5	21 30 40.95	T. 3	— 20 48 31.13	M. 3.
B. A. C. 7490	6	21 27 32.81	T. 2	— 20 39 42.80	M. 1.
			ASTRÆA.		
Weisse XXIII, 936	9	23 46 43.83	T. 2	— 5 46 8.60	M. 3.
Weisse XXIII, 895	8	23 45 4.66	T. 3	— 6 24 4.30	M. 3.
			EUPHROSYNE.		
Oeltzen S. 492	9	0 47 31.93	T. 5	— 18 42 27.35	M. 3.
Oeltzen S. 498	9	0 47 41.00	T. 5	18 44 1.70	M. 2.
Oeltzen S. 423	6	0 41 14.38	T. 4	— 18 46 21.60	M. 2.

ADOPTED MEAN PLACES FOR 1870.0 OF COMPARISON STARS.

STAR.	MAG.	α	AUTHORITY.	δ	AUTHORITY.
			FAYE'S COMET.		
		h. m s.		° ′ ″	
(* 134) W.	9.5	21 47 58.66	T. 3	+ 3 8 21.65	M. 2.
Weisse XXI, 1037	9	21 44 35.63	T. 3	2 30 0.03	M. 2.
(* 135) W.	9.3	21 43 27.14	T. 2	2 5 14.90	M. 2.
B. A. C. 7587	6	21 40 38.43	T. 3	2 5 11.55	M. 3.
(* 136) W.	9	21 41 36.76	T. 1	+ 1 41 27.80	M. 2.
(* 137) W.	9	21 40 24.30	T. 1	— 1 14 39.70	M. 2.
			DIANA.		
Weisse XXIII, 386	9	23 20 9.57	T. 3	+ 0 59 7.10	M. 3.
B. A. C. 8169	5.5	23 20 16.04	T. 7	+ 0 32 41.00	M. 2.
			IO.		
Weisse I, 201	9	1 13 57.62	T. 1	+ 12 10 45.47	M. 3.
Weisse I, 55	7	1 5 29.54	T. 4	11 35 34.25	M. 2.
Weisse I, 62	8.5	1 5 55.83	T. 4	11 18 5.45	M. 2.
Weisse I, 66	8.9	1 6 18.49	T. 2	10 59 32.15	M. 2.
Weisse I, 22	9	1 3 46.28	T. 2	10 27 18.17	M. 3.
Weisse I, 39	7	1 4 40.41	T. 6	9 36 0.90	
Weisse O, 1034	9	0 59 39.09	T. 5	9 13 10.50	M. 2.
Santini 64	6	1 1 34.06	T. 3	9 12 50.15	M. 2.
Weisse O, 997	8	0 57 51.36	T. 4	8 53 19.05	M. 2.
Santini 58	7	0 55 55.54	T. 4	8 26 5.47	M. 1.
Weisse O, 925	9	0 53 57.17	T. 4	8 0 4.67	M. 3.
Piazzi 256	8	0 54 26.64	T. 2	7 20 4.50	M. 2.
Weisse O, 891	9	0 52 13.91	T. 6	7 1 2.63	M. 3.
Weisse O, 878	8.5	0 51 13.12	T. 2	6 54 30.15	M. 2.
Weisse O, 829	8.5	0 48 35.18	T. 4	6 8 57.43	M. 1.
Weisse O, 787	9	0 45 57.00	T. 3	5 57 32.00	M. 1.
Weisse O, 804	8.5	0 46 52.14	T. 4	5 16 48.30	M. 1.
Weisse O, 726	9	0 42 51.06	T. 3	4 13 8.60	M. 1.
Weisse O, 800	9	0 46 36.75	T. 1	4 17 57.90	M. 1.
(* 138) W.	7	0 43 2.00	Washington Equatorial	3 34 33.27	M. 4.
Santini 46	7	0 44 36.82	Santini Catalogue	2 40 48.90	M. 1.
Weisse O, 902	8.5	0 52 43.35	Weisse Catalogue	2 22 53.89	Weisse Catalogue.
Weisse O, 979	9	0 56 44.09	Weisse Catalogue	+ 2 33 25.73	Weisse Catalogue.
			IRENE.		
D. M.—1°, 267	8.5	1 52 31.44	T. 4	— 1 38 16.76	Argelander Durchmusterung.
Weisse I, 831	9	1 47 8.71	Weisse Catalogue	1 59 24.89	Weisse Catalogue.
Weisse I, 819	8	1 46 30.37	T. 3	— 1 57 8.68	Weisse Catalogue.
			MNEMOSYNE.		
Weisse II, 580	7	2 34 17.01	Weisse Catalogue	+ 5 30 47.80	M. 1.
B. A. C. 817	7	2 33 24.55	Weisse Catalogue	5 33 7.20	M. 1.
B. A. C. 794	5	2 29 3.30	Weisse Catalogue	+ 5 1 29.46	Weisse Catalogue.
			PHOCÆA.		
Weisse III, 316	9	3 18 57.64	T. 1	+ 7 2 19.30	M. 1.
Weisse III, 145	9	3 9 39.06	T. 2	5 21 48.68	Weisse Catalogue.
Weisse III, 56	9	3 5 7.72	T. 2	+ 4 56 33.30	M. 1.
			PSYCHE.		
Weisse 2, IV, 22	8	4 3 32.13	Weisse Catalogue	+ 15 36 18.91	Weisse Catalogue.

MEAN RIGHT ASCENSIONS FOR 1870.0

OF

STARS OBSERVED

WITH THE

TRANSIT INSTRUMENT,

1865.

MEAN RIGHT ASCENSIONS FOR 1870.0,

TRANSIT INSTRUMENT.

(*) — 23° 52′.

1865.	h.	m.	s.	Mag.
Oct. 21	0	0	10.59	6.0

O. ARG. N. 26423.

Aug. 28	0	1	19 49	7.8
Sept. 5			19.58	8.0
Oct. 5			19.39	8.0

α ANDROMEDÆ.

Jan. 11	0	1	40.32	
30			40.28	
Feb. 1			40.28	
2			40.25	
6			40.21	
Mar. 31			40.24	
April 24			40.24	
May 3			40.33	
June 22			40.30	
Aug. 9			40.14	
Oct. 30			40.35	

O. ARG. S. 8.

Oct. 7	0	1	41.03	

SANTINI 1.

Aug. 19	0	1	42.11	
24			42.20	8.0
Oct. 2			42.01	

O. ARG. S. 9.

Oct. 7	0	1	45.05	

O. ARG. N. 14.

Aug. 29	0	1	57.80	8.2
Sept. 5			57.76	8.0
Oct. 5			57.47	

WEISSE 10.

Oct. 2	0	2	49.41	
Dec. 1			49.29	9.0

B. A. C. 17.

Oct. 28	0	3	39.55	

WEISSE 51.

Sept. 11	0	4	25.67	

WEISSE 71.

Dec. 1	0	5	19.73	9.0

O ARG. S. 52.

Oct. 7	0	6	1.99	

WEISSE 88.

1865.	h.	m.	s.	Mag.
Nov. 27	0	6	20.28	

WEISSE 90.

Sept. 1	0	6	25.40	
5			25.35	8.5

γ PEGASI.

Jan. 4	0	6	32.64	
30			32.61	
April 23			32.67	
June 18			32.59	
22			32.67	
July 13			32.53	
28			32.59	
Aug. 9			32.57	
Sept. 6			32.62	
14			32.54	
16			32.55	
Oct. 2			32.56	
5			32.61	
7			32.68	
10			32.51	
21			32.53	
28			32.64	
Nov. 8			32.55	
14			32.56	
25			32.65	

HARVARD Z, 97, 22.

Aug. 25	0	6	52.35	

LALANDE 130.

Aug. 19	0	6	59.81	
24			59.96	8.5

(*) + 0° 6′.

Aug. 25	0	7	21.81	

LALANDE 205.

Sept. 11	0	9	17.12	
29			16.94	

(*) + 7° 21′.

Oct. 28	0	9	24.25	7.8

36 PISCIUM.

Oct. 28	0	9	53.37	6.4

(*) — 15° 13′.

Oct. 7	0	10	16.20	

B. A. C. 59.

Sept. 5	0	11	46.91	

O. ARG. S. 117.

1865.	h.	m.	s.	Mag.
Oct. 7	0	12	52.92	8.0

O. ARG. S. 122.

Oct. 7	0	13	27.13	7.4

(*) — 33° 31′.

Sept. 5	0	13	44.36	

d PISCIUM.

Jan. 4	0	13	54.54	
July 13			54.55	
Aug. 9			54.67	

O. ARG. S. 136.

Oct. 21	0	15	11.15	
24			11.27	6.2

LACAILLE 55.

Sept. 5	0	15	17.61	
Oct. 10			17.63	8.0

(*) — 23° 45′.

Oct. 10	0	15	17.78	9.2

WEISSE 247.

Jan. 4	0	15	16.56	8.0
Aug. 24			18.62	8.3
25			18.56	8.3
Sept. 11			18.65	
16			(18.29)	
29			18.50	
Oct. 2			18.59	

LACAILLE 66.

Sept. 28	0	16	51.11	

O. ARG. S. 160.

Oct. 7	0	17	40.42	8.0

(*) + 6° 57′.

Sept. 14	0	18	10.84	9.5

O. ARG. S. 169.

Oct. 7	0	18	16.42	7.5

44 PISCIUM.

Aug. 9	0	18	44.44	
Oct. 24			44.28	

45 PISCIUM.

1865.	h.	m.	s.	Mag.
Jan. 4	0	18	59.86	6.5
Aug. 24			59.86	7.0
25			59.83	
Sept. 5			59.82	6.5
11			59.85	
14			59.87	7.5
29			59.83	
Oct. 2			59.89	

B. A. C. 103.

Sept. 28	9	21	28.62	5.5

(*) + 7° 20′.

Sept. 1	0	21	46.35	

O. ARG. S. 210.

Sept. 16	0	21	49.97	

(*) — 36° 28′.

Oct. 10	0	22	2.01	7.5
21			1.96	8.0

(*) — 4° 42′.

Oct. 25	0	22	10.20	8.5

WEISSE 358.

Aug. 24	0	22	41.13	9.5
Sept. 1			41.21	
11			41.19	
29			40.99	

(*) — 36° 29′.

Oct. 21	0	22	57.09	8.0

LALANDE 658.

Sept. 14	0	23	0.12	8.0

12 CETI.

Aug. 10	0	23	24.34	
12			24.24	
26			24.24	
Sept. 14			24.27	
19			24.25	
Oct. 20			24.14:	
24			24.18	
25			24.22	
Nov. 1			24.25	
8			24.24	
11			24.33	
14			24.17	
25			24.22	
28			24.26	

Weisse 375.

1865.	h. m. s.	Mag.
Aug. 25	0 23 48.62	
Sept. 5	48.60	8.0
11	48.68	

B. A. C. 115.

Sept. 16	0 23 52.22	5.0

Weisse 439.

Nov. 15	0 26 50.06	7.8

O. Arg. S. 264.

Oct. 7	0 27 8.22	7.8

Santini 30.

Aug. 10	0 27 13.71	
12	13.56	8.0
Sept. 14	13.54	
Oct. 2	13.54	7.8
Nov. 14	13.54	

Weisse 453.

Aug. 25	0 27 36.37	
Sept. 5	36.27	9.2
29	36.34	

B. A. C. 138, (1st *.)

Aug. 24	0 27 51.59	7.5
26	51.41	7.0
Sept. 19	51.39	7.0
26	51.37	
28	51.44	7.0
Oct. 10	51.47	8.5
20	51.42	8.0
Nov. 27	51.52	6.5

B. A. C. 138, (2d *.)

Aug. 24	0 27 52.63	9.0
Sept. 19	52.41	9.0
28	52.42	9.5
Oct. 10	52.47	
20	52.40	9.4
Nov. 27	52.47	

Weisse 466.

Oct. 2	0 28 15.44	

13 Ceti.

Nov. 8	0 28 33.28	

O. Arg. S. 278.

Oct. 7	0 28 34.34	7.8

Weisse 477

Aug. 10	0 28 47.60	
Oct. 2	47.50	
21	47.38	7.7

(* 127) W.

Aug. 12	0 28 56.63	9.0
Sept. 1	56.76	
14	56.73	

Lacaille 142.

Oct. 11	0 29 38.68	6.0

14 Ceti.

Oct. 25	0 29 52.43	6.0
Nov. 8	52.46	

Weisse 506.

1865.	h. m. s.	Mag.
Sept. 5	0 30 39.19	9.5
29	39.07	

B. A. C. 161.

Sept. 11	0 30 48.91	
22	48.86	

Weisse 511.

Sept. 29	0 31 20.86	

15 Ceti.

Nov. 11	0 31 25.80	
15	25.79	

Lacaille 157.

Oct. 21	0 32 21.25	

B. A. C. 167.

Aug. 12	0 32 25.34	7.3
25	25.34	
Sept. 23	25.44	7.0

(*) + 1° 43′.

Nov. 27	0 32 44.62	9.5

Weisse 544.

Aug. 24	0 33 5.67	7.0
26	5.57	8.0

α Cassiopeæ.

April 16	0 33 8.76	

Weisse 571.

Sept. 1	0 34 16.51	
5	16.41	9.0
22	16.41	9.0
Oct. 2	16.49	
6	16.30	

Weisse 583.

Aug. 24	0 34 40.19	
25	40.06	7.8
Sept. 19	40.06	8.0

Lalande 1097.

Sept. 11	0 34 54.35	

Weisse 588.

Aug. 26	0 35 4.97	8.2

(*) + 0° 56′.

Sept. 11	0 35 13.66	

(*) + 2° 0′.

Oct. 11	0 35 18.38	9.0

(*) + 2° 50′.

Sept. 26	0 35 23.86	9.0

(*) + 2° 7′.

Oct. 7	0 35 24.42	9.2
10	24.40	9.2

Weisse 616.

Aug. 12	0 36 33.41	8.0

β Ceti.

1865.	h. m. s.	Mag.
Jan. 11	0 37 3.74	
June 22	3.66	
July 7	3.80	
27	3.77	
Aug. 25	3.74	
31	3.66	
Sept. 12	3.77	
Oct. 6	3.74	
Nov. 8	3.73	
10	3.71	
11	3.81	
13	(3.62)	
15	3.75	
24	3.70	
25	3.76	
27	3.75	
Dec. 1	3.81	
8	3.87	

(*) + 2° 28′.

July 25	0 38 14.13	
27	14.01	
28	13.96	7.6
Aug. 7	13.98	
12	13.98	7.7
15	13.98	
19	14.02	
23	13.93	
26	14.00	
29	14.05	
31	13.99	
Sept. 1	14.06	
5	13.99	7.7
6	14.08	
11	14.14	
12	14.06	
14	14.04	
15	13.99	
16	13.91	
19	14.01	7.7
20	14.04	7.6
22	14.06	
23	14.09	
27	14.10	
29	13.95	
Oct. 2	13.99	
6	14.12	
7	13.97	
9	14.10	
11	14.12	
20	13.92	
21	13.95	7.7
24	13.93	7.7
25	14.06	
28	14.07	
Nov. 1	14.01	
7	14.16	7.8
8	14.01	
10	14.03	
11	13.99	
13	14.12	
14	13.96	
15	14.00	
17	13.98	7.7
25	13.98	
27	14.04	
28	13.88	
Dec. 1	13.95	
8	13.97	
15	13.91	

(*) + 2° 15′.

Sept. 27	0 39 56.94	

Weisse 694.

Sept. 20	0 40 57.86	9.0
23	57.99	9.0
Oct. 2	57.95	
7	58.05	9.0
20	57.91	8.8

(*) + 2° 12′.

1865.	h m. s.	Mag.
Sept. 23	0 41 5.32	9.0
27	5.34	
Oct. 2	5.24	
7	5.25	9.2

O. Arg. S. 423.

Sept. 26	0 41 14.34	6.0
28	14.42	6.0
Oct. 5	14.43	5.5
21	14.34	6.0

δ Piscium.

Jan. 4	0 41 56.34	
Sept. 6	56.39	
15	56.38	
22	56.31	
29	56.41	
Oct. 6	56.36	
Nov. 1	56.31	
28	56.22	

O. Arg. S. 428.

Oct. 11	0 42 2.91	8.0

(*) + 3° 0′.

July 28	0 42 45.15	8.5
Aug. 15	45.11	9.0
19	45.19	
23	45.12	
26	45.10	
31	45.16	
Oct. 10	45.15	8.5

(*) + 7° 17′.

Oct. 5	0 42 50.16	

Weisse 726.

Nov. 10	0 42 51.17	
15	50.98	
24	51.03	9.0

Rumker 329.

Aug. 24	0 43 7.65	
25	7.51	9.0
Sept. 5	7.56	8.7

Weisse 733.

Sept. 15	0 43 19.79	
29	19.78	
Oct. 6	19.77	

Weisse 742.

Oct. 9	0 43 45.47	
Dec. 8	45.13	

Weisse 749.

Oct. 2	0 44 10.76	

Weisse 770.

Oct. 11	0 44 55.68	9.2
21	55.59	9.2
24	55.51	9.5
Nov. 7	55.48	9.2

Weisse 775.

Aug. 15	0 45 13.92	
Sept. 26	13.79	
Oct. 11	13.93	8.0
21	13.94	8.5
24	13.78	8.0
Nov. 7	13.91	8.0

RUMKER N. F., 354.

1865.	h. m. s.	Mag.
Aug. 19	0 45 20.97	8.7
23	21.06	8.5
Sept. 5	20.98	8.5

WEISSE 786.

Aug. 12	0 45 55.45	9.0
26	55.48	

WEISSE 787.

Nov. 10	0 45 56.98	
17	56.98	9.0
27	57.04	

WEISSE 800, (1st *.)

Nov. 11	0 46 36.66	
15	36.54	9.0
27	36.69	

WEISSE 800, (2d *.)

Nov. 15	0 46 36.75	9.5

(*) + 3° 18′.

Sept. 26	0 46 37.79	
Oct. 21	38.01	7.5
24	37.77	7.7
Nov. 7	37.89	7.5

WEISSE 804.

Nov. 10	0 46 52.15	
17	52.14	8.5
Dec. 1	52.13	9.0
8	52.14	9.0

WEISSE 807.

Aug. 12	0 47 3.56	8.3
19	3.61	8.8
23	3.51	
Sept. 15	3.65	

O. ARG. S. 492.

Sept. 28	0 47 31.91	9.0
Oct. 5	31.96	9.2
20	31.90	9.0
Nov. 6	31.86	9.2
10	32.06	9.0

O. ARG. S. 498.

Sept. 28	0 47 41.08	8.5
Oct. 5	40.99	9.0
10	40.99	8.8
Nov. 6	40.92	
10	41.02	

WEISSE 829.

Nov. 8	0 48 35.23	
15	35.19	
Dec. 1	35.22	8.0
8	35.08	8.0

WEISSE 836.

Sept. 29	0 49 5.29	
Oct. 6	5.39	
7	5.21	
21	5.25	8.0

WEISSE 845.

Aug. 15	0 49 25.22	
24	25.27	
Sept. 11	25.28	

(*) + 6° 8′.

1865.	h. m. s.	Mag.
Oct. 25	0 49 35.25	8.0

(*) + 6° 8′.

Oct. 25	0 50 23.65	

WEISSE 871.

Oct. 10	0 51 0.88	8.0

WEISSE 878.

Nov. 8	0 51 13.05	
15	13.10	

(*) + 6° 54′.

Nov. 7	0 51 51.33	8.3

O. ARG. S. 542.

Sept. 5	0 51 58.61	7.0

WEISSE 891.

Nov. 6	0 52 13.98	
10	13.96	9.0
24	13.91	9.0
27	13.89	9.0
Dec. 1	14.00	
8	13.71	9.0

WEISSE 917.

Sept. 28	0 53 24.85	9.0

LALANDE 1737.

Aug. 12	0 53 55.16	8.0

WEISSE 925.

Nov. 6	0 53 57.25	
10	57.18	
24	57.21	9.0
27	57.03	9.0

WEISSE 928.

Aug. 15	0 54 7.53	
23	7.47	
26	7.45	
Sept. 11	7.50	
26	7.33	7.6
28	7.39	7.0
29	7.49	

WEISSE 931.

Nov. 6	0 54 18.67	
10	18.64	8.5
24	18.60	8.5
27	18.59	9.0

WEISSE 935.

Oct. 2	0 54 25.96	
5	25.95	7.0
6	26.14	
Dec. 1	26.04	9.0

PIAZZI 256.

Nov. 8	0 54 26.61	8.0
15	26.67	

WEISSE 944.

Aug. 12	0 54 56.03	7.7

WEISSE 946.

Aug. 12	0 55 1.12	9.0

70 PISCIUM.

1865.	h. m. s.	Mag.
Aug. 7	0 55 21.43	
Sept. 1	21.40	
27	21.36	8.0

B. A. C. 286.

Sept. 22	0 55 43.73	
Oct. 21	43.74	6.5
Nov. 14	43.69	

SANTINI 58.

Nov. 8	0 55 55.65	7.0
14	55.63	6.5
Dec. 1	55.45	7.0
8	55.43	7.4

ε PISCIUM.

Jan. 4	0 56 11.89	
8	11.91	
Feb. 1	11.86	
July 7	11.81	
17	11.89	
27	11.93	
28	11.90	
Aug. 7	11.95	
10	11.85	
15	11.84	
19	11.82	
23	11.81	
24	11.89	
25	11.87	
29	11.99	
Sept. 1	11.94	
5	11.87	
6	11.91	
11	11.82	
12	11.78	
14	11.93	
15	11.86	
16	11.80	
19	11.96	
20	11.80	
22	11.85	
23	11.90	
26	11.90	
27	11.91	
28	11.83	
29	11.91	
Oct. 2	11.93	
6	11.95	
7	11.81	
9	11.97	
10	11.93	
11	11.91	
16	11.90	
Nov. 9	11.80	
10	11.89	
13	11.91	

25 CETI.

Oct. 5	0 56 28.07	6.0

WEISSE 997.

Oct. 21	0 57 51.34	8.0
Nov. 6	51.40	
24	51.37	8.0
27	51.33	8.0

(*) + 9° 48′.

Oct. 9	0 58 47.11	

WEISSE 1031.

Sept. 11	0 59 26.56	
22	26.55	

WEISSE 1034.

1865.	h. m. s.	Mag.
Oct. 16	0 59 38.97	
Nov. 8	38.99	
24	39.17	9.5
27	39.13	9.5
Dec. 8	39.20	

WEISSE 1041.

Aug. 26	0 59 46.44	
Sept. 5	46.45	8.0
19	46.51	8.3
26	46.33	8.5

WEISSE 1054.

Sept. 5	1 0 26.08	9.0
19	26.11	8.8
26	26.02	9.0

O. ARG. S. 636.

Oct. 10	1 0 54.08	7.0

SANTINI 64.

Nov. 6	1 1 34.02	
8	34.11	
14	34.04	6.3

(*) + 11° 57′.

Aug. 25	1 2 20.87	
26	20.89	

WEISSE 13.

Aug. 23	1 3 10.25	
25	10.30	
26	10.29	
Oct. 2	10.41	

WEISSE 20.

Sept. 5	1 3 31.93	9.2
11	31.93	
22	32.01	

WEISSE 22.

Oct. 10	1 3 46.22	8.3
Nov. 10	46.34	

WEISSE 39.

Oct. 21	1 4 40.37	6.0
Nov. 6	40.37	
8	40.41	6.6
10	40.42	7.0
15	40.47	7.0
27	40.40	7.0

WEISSE 42.

Aug. 9	1 4 45.12	8.8

WEISSE 55.

Aug. 19	1 5 29.55	7.8
Oct. 6	29.65	
Nov. 14	29.43	6.5
24	29.52	

(*) + 12° 19′.

Aug. 12	1 5 35.89	8.5
23	35.77	
25	35.90	
Oct. 2	(36.19)	

WEISSE 62.

Oct. 6	1 5 55.90	
Nov. 14	55.71	9.0
24	55.87	

Weisse 65.

1865.	h. m. s.	Mag.
Oct. 10	1 6 16.08	8.3

Weisse 66.

1865.	h. m. s.	Mag.
Oct. 10	1 6 18.47	7.8
Nov. 6	18.51	

(*) + 2° 12′.

1865.	h. m. s.	Mag.
Sept. 5	1 6 21.28	
22	21.40	

ζ Piscium, (1st *.)

1865.	h. m. s.	Mag.
Oct. 5	1 6 56.40	
Nov. 28	56.34	

Weisse 76.

1865.	h. m. s.	Mag.
Oct. 6	1 6 57.64	

ζ Piscium, (2d *.)

1865.	h. m. s.	Mag.
Oct. 5	1 6 57.80	
Nov. 28	57.79	

(*) + 2° 12′.

1865.	h. m. s.	Mag.
Aug. 24	1 13 21.34	9.5

Weisse 188.

1865.	h. m. s.	Mag.
Nov. 14	1 13 21.90	9.0

Lalande 2410.

1865.	h. m. s.	Mag.
Aug. 12	1 13 45.74	8.6
19	45.66	
Oct. 2	45.77	

(*) + 22° 45′.

1865.	h. m. s.	Mag.
Aug. 23	1 13 53.89	

Weisse 201.

1865.	h. m. s.	Mag.
Oct. 6	1 13 57.62	

Weisse 208.

1865.	h. m. s.	Mag.
Nov 17	1 14 24.82	

(*) + 5° 43′.

1865.	h. m. s.	Mag.
Oct. 5	1 16 0.66	9.0
25	0.80	9.2

Weisse 255.

1865.	h. m. s.	Mag.
Sept. 28	1 17 0.62	
Oct. 5	0.58	8.0
10	0.67	8.2
25	0.65	8.2
Nov 10	0.71	

θ Ceti.

1865.	h. m. s.	Mag.
Jan. 20	1 17 31.59	
June 28	31.49	
July 17	31.63	
Aug. 11	31.58	
12	31.56	
19	31.56	
23	31.55	
26	31.55	
31	31.47	
Sept. 5	31.55	
11	31.50	
29	31.45	
Oct. 2	31.49	
20	31.58	
21	31.48	
24	31.43	
Nov. 6	31.63	
7	31.61	
8	31.57	
11	31.53	
14	31.53	
15	31.47	
17	31.59	
Dec. 8	31.56	

Weisse 269.

1865.	h. m. s.	Mag.
Sept. 28	1 17 38.00	
Oct. 5	38.01	
10	38.10	8.0
25	38.12	8.0
Nov. 10	38.13	8.0

Weisse 328.

1865.	h. m. s.	Mag.
Aug. 19	1 20 33.75	
Sept. 11	33.85	
28	33.74	9.0
Oct. 5	33.75	
10	33.86	8.5
Nov. 10	33.90	8.5

(*) + 6° 15′.

1865.	h. m. s.	Mag.
Sept. 29	1 21 20.38	

Weisse 362.

1865.	h. m. s.	Mag.
Nov 17	1 22 28.20	
24	28.34	8.0

Weisse 381.

1865.	h. m. s.	Mag.
Aug. 12	1 23 20.29	7.0
Oct. 6	20.41	
Nov. 14	20.30	6.5
17	20.27	7.5
24	20.34	7.5

μ Piscium.

1865.	h. m. s.	Mag.
Sept. 29	1 23 22.39	

Weisse 389.

1865.	h. m. s.	Mag.
Aug. 19	1 23 50.77	
Sept. 11	50.88	
Oct. 10	50.80	9.0
Nov. 10	50.89	9.0

η Piscium.

1865.	h. m. s.	Mag.
Jan. 4	1 24 31.80	
Feb. 1	31.83	
June 28	31.73	
Aug. 11	31.71	
24	31.77	
Sept. 26	31.82	
Oct. 21	31.84	
24	31.85	
Nov. 24	31.73	
27	31.79	
29	31.73	
Dec. 1	31.78	
8	(31.57)	
22	31.75	

Weisse 402.

1865.	h. m. s.	Mag.
Aug. 12	1 24 35.27	8.0
Oct. 5	35.15	
6	35.50	
Nov. 14	35.29	8.0
17	35.35	

Weisse 468.

1865.	h. m. s.	Mag.
Aug. 11	1 28 5.58	
12	5.63	8.4
19	5.59	
Sept. 11	5.68	

Lacaille 458.

1865.	h. m. s.	Mag.
Oct. 5	1 28 59.33	6.5

B. A. C. 481.

1865.	h. m. s.	Mag.
Nov. 1	1 29 14.85	

Lacaille 462.

1865.	h. m. s.	Mag.
Oct. 5	1 30 7.73	5.5

Weisse 557.

1865.	h. m. s.	Mag.
Aug. 19	1 32 55.61	9.0

Weisse 558.

1865.	h. m. s.	Mag.
Aug. 19	1 32 56.46	

Weisse 576.

1865.	h. m. s.	Mag.
Oct. 6	1 33 35.65	
Nov. 10	35.65	

Weisse 578.

1865.	h. m. s.	Mag.
Aug. 12	1 33 43.41	8.7
Aug. 19	43.41	

(*) + 3° 2′.

1865.	h. m. s.	Mag.
Oct. 25	1 34 0.62	9.2

Weisse 601.

1865.	h. m. s.	Mag.
Oct. 25	1 34 23.91	8.0

ν Piscium.

1865.	h. m. s.	Mag.
Jan. 5	1 34 40.04	
Aug. 10	40.07	
Sept. 28	40.04	
Oct. 5	40.02	
10	40.13	
Nov. 1	40.05	

Weisse 612.

1865.	h. m. s.	Mag.
Oct. 6	1 34 47.43	
Nov. 10	47.37	
17	47.17	

o Piscium.

1865.	h. m. s.	Mag.
Jan. 4	1 38 31.85	
5	31.89	
Feb. 1	31.86	
June 28	31.82	
July 17	31.87	
Aug. 11	31.86	
12	31.84	
19	31.83	
Oct. 5	31.84	
6	31.95	
10	31.97	
Nov. 1	31.86	
7	31.90	
10	31.98	
17	31.85	
Dec. 15	31.88	

(*) + 2° 46′.

1865.	h. m. s.	Mag.
Oct. 20	1 39 11.47	7.6

(*) + 6° 59′.

1865.	h. m. s.	Mag.
Nov. 17	1 41 44.96	8.0

Santini 102.

1865.	h. m. s.	Mag.
Nov. 14	1 41 50.91	7.5
17	50.89	9.0

54 Ceti.

1865.	h. m. s.	Mag.
Nov. 1	1 43 58.23	

Weisse 772.

1865.	h. m. s.	Mag.
Oct. 5	1 44 15.30	8.9
25	15.40	
Nov. 17	15.40	

Weisse 780.

1865.	h. m. s.	Mag.
Oct. 5	1 44 30.58	9.0
Nov. 17	30.63	

Weisse 812.

1865.	h. m. s.	Mag.
Nov. 10	1 46 10.15	8.5
14	10.07	8.0

Weisse 819.

1865.	h. m. s.	Mag.
Nov. 10	1 46 30.63	8.0
15	30.55	8.5
17	30.53	8.0

Weisse 820.

1865.	h. m. s.	Mag.
Oct. 5	1 46 36.29	9.0
25	36.49	
Nov. 8	36.58	9.5
24	36.53	

Weisse 831.

1865.	h. m. s.	Mag.
Nov. 10	1 47 9.12	9.0
17	9.01	
24	9.06	

β Arietis.

1865.	h. m. s.	Mag.
Jan. 5	1 47 27.66	
11	27.70	
Feb. 21	27.75	
Mar. 4	27.77	
7	27.72	
17	27.69	
27	27.73	
May 14	27.74	
15	27.73	
16	27.83	
22	27.76	
June 2	27.69	
8	27.75	
18	27.71	
28	27.69	
July 17	27.75	
18	27.68	
20	27.74	
Aug. 8	27.64	
Oct. 20	27.79	
Nov. 1	27.71	
7	27.67	
Dec. 14	27.75	

Weisse 843.

1865.	h. m. s.	Mag.
Nov. 17	1 47 50.99	

Weisse 880.

1865.	h. m. s.	Mag.
Oct. 25	1 50 33.87	

50 Cassiopeæ.

1865			h.	m.	s.	Mag.
Jan.	5	. .	1	52	22.93	

Durch. — 1°, 217.

Nov.	10	. .	1	52	31.44	
	17	. .			31.43	
	24	. .			31.45	

(*) + 9° 24′.

Nov.	10	. .	1	57	5.54	

Weisse 1018.

Oct.	25	. .	1	58	5.85	7.8
Nov.	8	. .			5.73	7.8
	10	. .			5.94	

Weisse 1022.

Oct.	25	. .	1	58	28.61	8.2
Nov.	8	. .			28.60	8.0
	10	. .			28.60	8.0

Weisse 1045.

Oct.	25	. .	1	59	44.79	8.0
Nov.	8	. .			44.67	8.0
	10	. .			44.79	

α Arietis.

Feb.	21	. .	1	59	50.95	
	27	. .			51.05	
Mar.	4	. .			50.93	
	5	. .			51.01	
	13	. .			50.93	
	17	. .			50.88	
	18	. .			50.88	
	27	. .			50.90	
April	1	. .			50.97	
May	11	. .			50.99	
	12	. .			50.99	
	14	. .			50.96	
	22	. .			50.99	
	29	. .			51.00	
June	2	. .			51.04	
	3	. .			50.96	
	8	. .			50.99	
	18	. .			50.90	
July	17	. .			50.91	
	20	. .			50.96	
Aug.	8	. .			50.90	
Nov.	17	. .			50.96	

Weisse 56.

Nov.	6	. .	2	5	33.87	9.0

Weisse 61.

Oct.	25	. .	2	5	51.84	
Nov.	6	. .			51.66	8.0

ξ¹ Ceti.

Jan.	5	. .	2	6	6.75	
Aug.	11	. .			6.60	
	16	. .			6.70	
Oct.	5	. .			6.65	
Nov.	8	. .			6.67	
	9	. .			6.66	
	10	. .			6.78	
	14	. .			6.74	
Dec.	28	. .			6.72	

67 Ceti.

Nov.	6	. .	2	10	29.95	
Dec.	28	. .			29.99	

Lalande 4410.

Jan.	5	. .	2	15	57.46	6.0

ξ² Ceti.

1865.			h.	m.	s.	Mag.
Aug.	12	. .	2	21	14.95	

(*) + 21° 39′.

Nov.	6	. .	2	33	22.88	9.0
	24	. .			22.92	9.0

Weisse (2) 805.

Oct.	25	. .	2	34	6.50	8.4
Nov.	24	. .			6.49	8.5

γ Ceti.

Mar.	4	. .	2	36	33.96	
	17	. .			33.98	
Oct.	6	. .			33.95	
Nov.	24	. .			34.02	
Dec.	22	. .			33.98	

Weisse 615.

Oct.	25	. .	2	36	39.63	
Nov.	6	. .			39.45	
	10	. .			39.67	

π Ceti.

Dec.	28	. .	2	37	54.94	

π Arietis.

Oct.	6	. .	2	42	2.50	

Weisse 728.

Oct.	6	. .	2	43	20.02	
Nov.	6	. .			19.88	

Weisse 746.

Oct.	6	. .	2	44	22.25	
	25	. .			22.19	9.0
Nov.	6	. .			22.15	

Weisse 841.

Oct.	6	. .	2	49	4.50	
	25	. .			4.39	
Nov.	6	. .			4.29	

O. Arg. S. 1910.

Feb.	2	. .	2	50	7.92	8.5

ε Arietis.

Oct.	6	. .	2	51	46.90	

(* 132) W.

Oct.	25	. .	2	52	40.38	9.8

α Ceti.

Feb.	2	. .	2	55	29.23	
Mar.	4	. .			29.11	
	27	. .			29.12	
April	1	. .			29.14	
May	23	. .			29.15	
June	8	. .			29.15	
	13	. .			29.14	
Nov.	10	. .			29.24	

Weisse 1001.

Feb.	2	. .	2	57	50.90	8.4
Oct.	6	. .			50.98	
	25	. .			50.88	8.5

δ Arietis.

Feb.	2	. .	3	4	11.98	
Aug.	12	. .			11.93	
Oct.	7	. .			11.97	
Dec.	28	. .			11.97	

B. A. C. 987.

1865.			h.	m.	s.	Mag.
Oct.	25	. .	3	4	13.69	6.2
Nov.	4	. .			13.68	
	6	. .			13.57	

Weisse 56.

Dec.	15	. .	3	5	7.62	9.0
	22	. .			7.81	9.0

ζ Arietis

Feb.	2	. .	3	7	25.89	
Aug.	12	. .			25.94	
Oct.	6	. .			25.91	
	25	. .			25.98	
Nov.	6	. .			25.88	
Dec.	15	. .			25.88	
	22	. .			25.96	
	28	. .			25.97	

Weisse 139.

Oct.	6	. .	3	9	14.60	
	7	. .			14.55	
Nov.	6	. .			14.36	

Weisse 145.

Dec.	15	. .	3	9	39.01	
	22	. .			39.10	

Weisse 168.

Feb.	2	. .	3	10	41.50	8.2
Oct.	7	. .			41.54	
Nov.	6	. .			41.28	

Weisse 228.

Feb.	2	. .	3	13	34.60	9.0
Oct.	6	. .			34.74	
	7	. .			34.67	
Nov.	6	. .			34.62	

Weisse 240.

Feb.	2	. .	3	14	17.76	8.1
Oct.	2	. .			17.86	
	7	. .			17.79	
Nov.	6	. .			17.70	

α Persei.

Mar.	27	. .	3	15	3.09	
April	1	. .			3.28	
	16	. .			3.06	
	22	. .			3.26	

Weisse 295.

Jan.	7	. .	3	17	56.01	8.3

Weisse 316.

Dec.	15	. .	3	18	57.64	

Weisse 334.

Jan.	7	. .	3	20	9.14	6.5

Lacaille 1108.

Feb.	2	. .	3	22	31.29	6.5

Rumker, N. F., 875.

Oct.	7	. .	3	23	5.52	8.0

Lacaille 1111.

Feb.	2	. .	3	23	10.47	7.0

f Tauri.

1865.			h.	m.	s.	Mag.
Jan.	7	. .	3	23	41.93	
Oct.	6	. .			41.84	
	7	. .			41.92	

O. Arg. S. 2343.

Jan.	4	. .	3	26	54.02	

Weisse 575.

Jan.	7	. .	3	31	56.95	8.7
Nov.	6	. .			56.88	7.5

Weisse 580.

Jan.	7	. .	3	32	9.08	7.8
Nov.	6	. .			8.97	6.0

Lacaille 1171.

Jan.	4	. .	3	34	31.45	

Rumker, N. F., 952.

Feb.	2	. .	3	36	40.57	

17 Tauri.

Feb.	2	. .	3	37	9.48	

1 Pleiadum.

Feb.	2	. .	3	37	43.22	

7 Pleiadum.

Feb.	2	. .	3	38	8.66	

8 Pleiadum.

Jan.	7	. .	3	38	30.23	8.5

9 Pleiadum.

Jan.	7	. .	3	38	32.33	8.5
	12	. .			32.43	

23 Tauri.

Feb.	2	. .	3	38	36.79	

10 Pleiadum.

Jan.	12	. .	3	38	43.49	

13 Pleiadum.

Feb.	2	. .	3	39	21.04	

15 Pleiadum.

Dec.	15	. .	3	39	33.05	

24 Taurl.

Dec.	15	. .	3	39	37.49	

(*) + 23° 36′.

Feb.	2	. .	3	39	38.46	

Weisse (2) 862.

Oct.	7	. .	3	39	39.67	
	25	. .			39.67	
Nov.	6	. .			39.52	

(*) + 23° 45′.

Jan.	12	. .	3	39	45.54	

η Tauri.

1865.	h. m. s.	Mag.
Jan. 4	3 39 45.59	
12	45.60	
14	45.64	
Feb. 4	45.57	
June 27	45.56	
28	45.62	
29	45.65	
July 17	45.57	
Dec. 14	45.58	
15	45.60	

29 Pleiadum.

Jan. 12	3 40 45.68	
21	45.56	

ε Tauri.

Jan. 4	3 41 8.75	

(*) + 23° 40′.

Feb. 2	3 41 13.58	

27 Tauri.

Feb. 4	3 41 26.05	

28 Tauri.

Feb. 4	3 41 27.34	

(*) + 23° 40′.

Feb. 2	3 41 29.04	

(*) + 23° 46′.

Jan. 12	3 41 37.08	9.0

(*) + 23° 46′.

Jan. 12	3 42 11.88	8.8

B. A. C. 1188.

Feb. 2	3 42 14.81	

ζ Persei.

Jan. 11	3 45 57.78	
Nov. 6	57.63	
Dec. 1	57.92	

O. Arg. S. 2623.

Jan. 4	3 48 20.19	7.0

O. Arg. S. 2637.

Jan. 12	3 48 55.85	
Feb. 2	56.00	8.5

B. A. C. 1229.

Dec. 15	3 50 24.43	

γ¹ Eridani.

Jan. 7	3 51 57.82	
11	57.84	
Feb. 1	57.84	
Nov. 27	57.95	
Dec. 1	57.80	
15	58.01	

O. Arg. S. 2696.

Jan. 12	3 52 31.68	
Feb. 2	31.68	9.0

(*) — 21° 25′.

Feb. 2	3 55 28.01	9.2

O. Arg. S. 2741.

Feb. 2	3 56 14.20	8.0

A¹ Tauri.

Feb. 4	3 57 0.83	
Dec. 28	0.72	

O. Arg. S. 2761.

Feb. 1	3 57 21.14	8.0

(*) + 22° 6′.

Jan. 11	3 58 52.43	

(*) + 20° 55′.

Jan. 25	4 0 8.83	8.0

Lacaille 1346.

Feb. 2	4 0 28.75	8.0

(*) + 15° 36′.

Nov. 25	4 0 45.19	

(*) + 15 40′.

Nov. 24	4 1 40.84	9.5

O. Arg. S. 2828.

Feb. 2	4 2 1.45	9.0

(*) — 7° 49′.

Feb. 1	4 2 9.89	9.0

37 Eridani.

Jan. 26	4 4 2.11	

(*) — 28° 9′.

Jan. 7	4 4 5.27	9.0
Feb. 2	5.15	8.7

Lalande 7819.

Feb. 1	4 4 32.05	7.5

Weisse (2) 65.

Oct. 25	4 5 9.74	
Nov. 15	9.85	
27	9.73	9.0
Dec. 15	9.83	

o¹ Eridani.

Jan. 11	4 5 31.24	
16	31.22	

Weisse 81.

Feb. 1	4 5 40.16	8.0

(*) — 6° 53′.

Jan. 11	4 6 19.80	9.0

(*) + 31° 21′.

Jan. 7	4 6 33.95	9.0
Nov. 27	34.04	9.0

Weisse (2) 118.

Jan. 7	4 7 41.24	7.8
Feb. 2	41.08	7.8
Nov. 27	41.20	7.5
Dec. 15	41.20	

Weisse (2) 120.

Jan. 7	4 7 44.11	8.0
Feb. 2	44.09	8.3
Nov. 27	44.18	8.5
Dec. 15	44.10	8.0

Weisse (2) 152.

Jan. 16	4 9 24.75	7.0

ω Tauri.

Feb. 2	4 9 38.76	
Dec. 15	38.82	

Weisse (2) 166.

Feb. 2	4 9 50.09	9.0

Weisse (2) 183.

Oct. 7	4 10 30.49	
25	30.55	
Nov. 24	30.39	
27	30.47	8.5
Dec. 15	30.55	8.0

γ Tauri.

Jan. 4	4 12 23.88	
7	23.86	
11	23.96	
12	23.88	
14	23.93	
16	23.91	
26	23.81	
Feb. 4	23.88	
July 17	23.86	
Aug. 10	23.77	
Oct. 7	23.82	
25	23.91	
Nov. 15	23.97	
24	23.81	
25	23.77	
Dec. 1	23.84	

Weisse (2) 244.

Oct. 7	4 12 28.40	

58 Tauri.

Nov. 27.	4 13 14.09	5.0

(*) — 31° 40′.

Jan. 12	4 14 0.64	8.0

B. A. C. 1355.

Jan. 25	4 16 7.59	

O. Arg. S. 3022.

Jan. 25	4 16 9.84	8.5

Weisse (2) 350.

Jan. 7	4 17 29.86	8.2
20	29.89	9.0

(*) — 28° 30′.

Jan. 26	4 17 52.02	8.5

O. Arg. S. 3044.

Jan. 11	4 18 12.30	
12	12.46	8.5

O. Arg. S. 3061.

Jan. 26	4 19 37.75	8.0

ε Tauri.

Jan. 4	4 21 1.75	
7	1.68	
11	1.78	
14	1.55	
16	1.69	
20	1.75	
25	1.65	
30	1.70	
Feb. 2	1.62	
7	1.64	

Weisse (2) 436.

Feb. 1	4 21 18.17	7.5

Lacaille 1463.

Jan. 26	4 22 42.36	6.7

Weisse 471.

Dec. 23	4 23 11.38	8.5

(*) — 23° 46′.

Jan. 26	4 23 40.07	7.2

Weisse (2) 505.

Jan. 20	4 23 56.77	
30	56.71	

85 Tauri.

Jan. 16	4 24 26.32	
30	26.29	

Weisse (2) 512.

Jan. 7	4 24 27.57	7.8
Feb. 2	27.56	8.0

Lacaille 1485.

Jan. 11	4 24 46.53	
12	46.65	7.5

Lacaille 1491.

Jan. 11	4 26 9.79	
12	9.89	7.5
26	9.85	7.0

Lacaille 1501.

Jan. 26	4 26 54.31	7.2

υ⁶ Eridani.

Feb. 4	4 28 24.65	

α Tauri.

Jan. 4	4 28 27.74	
11	27.82	
16	27.79	
20	27.86	
30	27.79	
Feb. 1	27.82	
April 13	27.82	
17	27.79	
22	27.76	
24	27.82	

a TAURI—Continued.

1865.	h. m. s.	Mag.
April 25	4 28 27.79	
26	27.81	
28	27.74	
May 2	27.78	
4	27.78	
13	27.73	
14	27.70	
16	27.82	
17	27.81	
June 8	27.68	
22	27.76	
27	27.70	
28	27.77	
29	27.78	
July 2	27.81	
13	27.82	
17	27.81	
Oct. 7	27.79	

(*) — 30° 50′.

Jan. 12	4 29 3.35	8.0	

WEISSE (2) 620.

Jan. 7	4 29 27.50	7.6
Feb. 2	27.47	7.7

v^7 ERIDANI.

Jan. 12	4 30 29.95	4.5
25	30.01	
26	29.99	4.0

B. A. C. 1439.

Jan. 26	4 31 48.22	6.7
Feb. 2	48.27	6.0

LACAILLE 1537.

Jan. 30	4 31 52.15	

WEISSE (2) 720.

Jan. 20	4 33 56.18	

RUMKER 1250.

Feb. 4	4 34 24.19	6.0

r TAURI.

Feb. 4	4 34 26.74	
Nov. 5	26.55	

(*) — 25° 55′.

Feb. 1	4 35 16.95	8.9

LACAILLE 1549.

Jan. 25	4 35 30.88	7.8

LACAILLE 1553.

Jan. 7	4 35 46.31	7.0
12	46.32	7.0
Feb. 2	46.35	7.0

LACAILLE 1557.

Jan. 30	4 36 40.73	7.0

β CŒLI.

Jan. 26	4 37 27.68	5.5

LACAILLE 1564.

Jan. 7	4 38 7.85	5.3

μ ERIDANI.

1865.	h. m. s.	Mag.
Jan. 4	4 39 0.20	
16	0.24	
20	0.36	
30	0.19	

B. A. C. 1471.

Jan. 12	4 39 1.58	7.0
Feb. 1	1.57	8.0

O. ARG. S. 3360.

Jan. 25	4 40 31.08	7.0

(*) + 10° 44′.

Jan. 7	4 41 4.80	9.0
Nov. 15	5.00	

a CAMELOPARDI.

Jan. 20	4 41 8.35	

(*) + 10° 43′.

Jan. 7	4 41 18.70	8.5
Feb. 2	18.62	
Nov. 5	18.63	9.0
15	18.74	

(* 128) W.

Jan. 7	4 41 21.14	8.6
Nov. 5	21.15	9.2
15	21.25	

(*) + 10° 43′.

Jan. 7	4 41 23.53	8.6
Feb. 2	23.61	

(*) + 10° 43′.

Nov. 5	4 41 30.74	9.4

(*) + 10° 43′.

Feb. 3	4 41 33.59	

LACAILLE 1595.

Jan. 30	4 41 45.93	7.0

O. ARG. S. 3389.

Jan. 12	4 41 52.69	7.5
25	52.68	8.0
26	52.63	
Feb. 1	52.59	

WEISSE 926.

Dec. 23	4 44 0.29	

LACAILLE 1611.

Jan. 30	4 44 24.77	6.5

LACAILLE 1610.

Jan. 4	4 44 25.18	6.7
26	25.15	

O. ARG. N. 5260.

Jan. 16	4 45 2.21	

LACAILLE 1615.

Feb. 1	4 45 46.50	
4	46.52	

WEISSE 986.

Jan. 12	4 46 10.30	8.0

(*) — 30° 55′.

Jan. 25	4 47 37.42	8.0

WEISSE (2) 1047.

Jan. 7	4 47 48.76	8.3
Feb. 21	48.74	8.9
Dec. 23	48.83	

WEISSE 1028.

Jan. 12	4 47 52.27	7.0
Nov. 1	52.22	8.0

ι AURIGÆ.

Jan. 4	4 48 31.79	
11	31.77	
16	31.82	
20	31.85	
Dec. 21	31.72	

LACAILLE 1642.

Jan. 26	4 48 47.95	6.5

O. ARG. S. 3488.

Jan. 25	4 49 17.34	8.9

O. ARG. S. 3492.

Feb. 1	4 49 30.04	8.9

O. ARG. S. 3494.

Feb. 4	4 49 33.13	7.8

LACAILLE 1652.

Jan. 26	4 49 35.90	6.0

O. ARG. S. 3513.

Jan. 12	4 50 38.15	8.5

(*) — 39° 58′.

Feb. 21	4 50 59.31	9.0

LACAILLE 1659.

Feb. 21	4 51 4.57	7.7

(*) — 25° 48′.

Feb. 1	4 51 5.20	9.5

WEISSE (2) 1138.

Jan. 20	4 51 24.72	

LACAILLE 1666.

Jan. 30	4 53 3.25	

(*) + 6° 0′.

Jan. 12	4 54 14.67	8.8

LACAILLE 1675.

Feb. 1	4 54 25.16	8.0

(*) + 5° 50′.

Dec. 22	4 54 45.93	9.0

LACAILLE 1678.

Feb. 21	4 54 47.38	7.0

O. ARG. S. 3576.

1865.	h. m. s.	Mag.
Jan. 11	4 54 52.46	
26	52.51	

(* 129) W.

Jan. 7	4 55 10.18	
12	10.15	8.8
Dec. 22	10.14	8.0

WEISSE (2) 1261.

Oct. 25	4 56 30.47	
Nov. 15	30.53	

WEISSE (2) 1266.

Feb. 4	4 56 36.25	

11 ORIONIS.

Jan. 11	4 57 8.49	
16	8.51	
20	8.51	
30	8.56	
Feb. 21	8.49	
Nov. 27	8.59	
Dec. 14	8.49	
22	8.53	
23	8.56	

LACAILLE 1704.

Jan. 12	4 58 30.08	

ε LEPORIS.

Jan. 7	4 59 57.50	
11	57.50	
20	57.55	

O. ARG. S. 3710.

Jan 11	5 3 31.78	

(*) + 4° 14′.

Feb. 21	5 3 42.99	9.2

WEISSE (2) 49.

Jan. 12	5 4 17.57	8.8

WEISSE 56.

Feb. 21	5 4 52.26	9.0

WEISSE 55.

Feb. 21	5 4 52.52	7.8
Oct. 25	52.57	

WEISSE (2) 111.

Jan. 12	5 5 55.83	7.6

(* 130) W.

Oct. 25	5 7 0.05	
Nov. 15	0.09	

a AURIGÆ.

Jan. 11	5 7 5.08	
16	5.07	
20	4.95	
April 26	5.23	
27	5.20	
May 6	5.40	
14	5.10	

Weisse 136.

1865.	h. m. s.	Mag.
Feb. 4 . .	5 7 18.32	5.0

Weisse 145.

Feb. 21 . .	5 7 50.21	8.6

Weisse 153.

Feb. 21 . .	5 8 14.22	9.0
(*) — 8° 21′.		
Feb. 1 . .	5 8 17.25	
4 . .	17.22	
March 4 . .	17.26	

β Orionis.

Jan. 11 . .	5 8 17.53	
20 . .	17.47	
Feb. 1 .	17.53	
4 . .	17.46	
April 22 . .	17.38	
25 . .	17.54	
26 . .	17.48	
28 . .	17.52	
May 3 . .	17.47	
4 . .	17.42	
6 . .	17.47	
14 . .	17.45	
16 . .	17.53	
23 . .	17.41	
24 . .	17.48	
June 18 . .	17.49	
22 . .	17.45	
27 . .	17.41	
July 6 . .	17.44	
8 . .	17.55	
19 . .	17.36	
20 . .	17.46	
24 . .	17.37	
27 . .	17.45	
Oct. 25 . .	17.38	
Nov. 5 . .	17.40	
15 . .	17.47	
29 . .	17.49	
Dec. 21 . .	17.49	
28 . .	17.47	

Weisse 156.

Feb. 21 . .	5 8 18.46	9.0

Lacaille 1774.

Jan. 12 . .	5 10 18.55	8.3
(* 131) W.		
Feb. 21 . .	5 12 43.23	8.9
Oct. 25 . .	43.28	9.3
(*) — 27° 31′.		
Jan. 11 . .	5 12 50.71	
(*) — 25° 23′.		
Jan. 12 . .	5 12 56.98	8.3
(*) — 25° 23′.		
Jan. 12 . .	5 12 57.82	8.3
(*) — 25° 22′.		
Jan. 12 . .	5 14 24.25	9.0

β Tauri.

1865.	h. m. s.	Mag.
Jan. 11 . .	5 18 4.46	
12 . .	4.60	
April 13 . .	4.50	
14 . .	4.41	
24 . .	4.42	
25 . .	4.43	
26 . .	4.47	
28 . .	4.48	
30 . .	4.60	
May 12 . .	4.43	
16 . .	4.42	
17 . .	4.45	
23 . .	4.55	
June 27 . .	4.56	
July 12 . .	4.48	
21 . .	4.64	
24 . .	4.59	
Nov. 27 . .	4.45	
29 . .	4.55	
Dec. 7 . .	4.44	
15 . .	4.42	
30 . .	4.55	

Weisse (2) 478.

Feb. 21 . .	5 18 6.17	8.3
Oct. 25 . .	6.15	

O. Arg. S. 3917.

Feb. 4 . .	5 18 16.03	9.0

O. Arg. S. 3920.

Feb. 4 . .	5 18 24.24	8.9

o Tauri.

Feb. 6 . .	5 19 49.78	
(*) — 0° 24′.		
Jan. 14 . .	5 21 4.72	

Lacaille 1844.

Jan. 30 . .	5 21 9.76	7.0

B. A. C. 1706.

Jan. 16 . .	5 21 21.33	

B. A. C. 1713.

Feb. 1 . .	5 22 11.29	7.8
(*) — 29° 42′.		
Nov. 15 . .	5 22 50.29	8.2
(*) — 26° 40′.		
Feb. 1 . .	5 23 19.08	9.0

O. Arg. N. 5930.

Feb. 21 . .	5 24 2.66	7.2

O. Arg. S. 4003

Jan. 11 . .	5 24 7.30	
12 . .	7.26	6.5
Feb. 4 . .	7.24	6.0

119 Tauri.

Feb. 6 . .	5 24 35.62	
March 4 . .	35.49	6.5
Sept. 11 . .	35.58	

δ Orionis.

1865.	h. m. s.	Mag.
Jan. 14 . .	5 25 21.90	
16 . .	21.88	
30 . .	22.02	
April 13 . .	22.01	
14 . .	21.97	
July 12 . .	21.94	
17 . .	21.85	
20 . .	21.98	
21 . .	21.92	
23 . .	21.93	
27 . .	21.85	
Oct. 25 . .	21.97	
Nov. 5 . .	21.89	
15 . .	21.97	
29 . .	21.98	
Dec. 7 . .	22.09	
30 . .	21.87	

Weisse 603.

Jan. 30 . .	5 25 22.00	

120 Tauri.

March 4 .	5 25 54.47	

Lalande 10426.

Jan. 11 . .	5 25 58.91	

α Leporis.

Jan. 12 . .	5 26 59.82	
20 . .	59.88	
Feb. 1 . .	59.85	
4 . .	59.82	
6 . .	59.85	
21 . .	59.89	

Rumker 1473.

Oct. 25 . .	5 27 39.20	9.0
Nov. 1 . .	39.15	
(*) + 21° 2′.		
Oct. 25 . .	5 27 41.44	9.3
(*) — 17° 57′.		
Feb. 1 . .	5 27 55.29	9.0

Σ Cat. Gen. 599.

Oct. 25 . .	5 28 36.95	9.0
Nov. 15 . .	36.90	9.2
29 . .	36.91	9.0

ε Orionis.

Jan. 14 . .	5 29 37.08	
16 . .	37.14	
20 . .	37.03	
30 . .	37.08	
Feb. 4 . .	37.03	
April 13 . .	37.12	
14 . .	37.17	
24 . .	37.10	
26 . .	37.06	
28 . .	37.08	
May 1 . .	37.11	
12 . .	37.16	
14 . .	37.10	
24 . .	36.99	
July 12 . .	37.01	
17 . .	37.07	
21 . .	36.97	
23 . .	37.14	
27 . .	37.00	
Nov. 5 . .	37.08	
29 . .	37.02	
Dec. 30 . .	36.94	

ζ Tauri.

1865.	h. m. s.	Mag.
Feb. 6 . .	5 29 52.74	
Mar. 4 . .	52.52	
Oct. 8 . .	52.55	
(*) — 1° 21′.		
Feb. 4 . .	5 29 55.91	9.0

O. Arg. N. 6031.

Feb. 21 . .	5 30 20.58	9.3

Lacaille 1906.

Jan. 12 . .	5 30 58.69	7.0

O. Arg. N. 6052.

Feb. 21 . .	5 31 27.80	

O. Arg. S. 4142.

Jan. 30 . .	5 32 31.77	9.0

Lacaille 1916.

Jan. 12 . .	5 32 36.09	6.7
30 . .	36.05	7.0

O. Arg. N. 6082.

Feb. 21 . .	5 32 51.22	8.6

Lacaille 1924.

Feb. 6 . .	5 33 8.34	

α Columbæ.

Jan. 11 . .	5 34 56.55	
14 . .	56.47	
20 . .	56.55	
Feb. 1 . .	56.54	

Lacaille 1945.

Jan. 12 . .	5 35 51.80	6.9
Feb. 4 . .	51.74	7.0
(*) — 26° 18′.		
Jan. 7 . .	5 36 4.54	8.5

Lacaille 1964.

Jan. 30 . .	5 37 35.76	7.0

Lacaille 1967.

Feb. 6 . .	5 38 10.79	

O. Arg. S. 4264.

Jan. 11 . .	5 39 3.50	7.0
(*) — 30° 40′.		
Jan. 12 . .	5 39 6.72	8.5

Lacaille 1977.

Feb. 21 . .	5 40 20.75	7.5

Rumker 1576.

Feb. 6 . .	5 41 25.97	
20 . .	25.99	9.0
Mar. 4 . .	25.87	9.5
(*) + 23° 40′.		
Feb. 20 . .	5 41 47.74	8.5

(*) + 25° 43′.

1865.	h. m. s.	Mag.
Jan. 7	5 41 59.32	9.2

(* 94) W.

Feb. 21	5 44 19.06	9.0

LACAILLE 2015.

Jan. 30	5 45 21.93	7.0

B. A. C. 1867.

Feb. 13	5 45 35.48	7.0

χ ORIONIS.

Feb. 6	5 46 41.34	
13	41.15	
20	41.23	
Oct. 7	41.17	

α ORIONIS.

Jan. 5	5 48 8.11	
11	8.06	
14	8.12	
16	8.04	
20	8.00	
25	8.12	
Feb. 1	8.03	
14	8.06	
April 1	8.05	
24	8.05	
27	8.08	
May 3	8.04	
6	8.03	
12	8.03	
13	8.05	
17	8.05	
23	8.01	
29	8.06	
June 5	8.05	
9	8.09	
14	8.07	
28	7.95	
July 6	8.10	
12	8.05	
13	8.05	
17	8.10	
18	8.09	
20	8.09	
21	8.08	
23	8.14	
25	7.98	
27	8.08	
Oct. 12	8.11	
Nov. 5	8.14	
15	8.09	
Dec. 30	8.13	

LACAILLE 2044.

Jan. 30	5 48 23.88	7.0

B. A. C. 1894.

Feb. 20	5 49 11.64	8.0

(*) + 7° 26′.

Jan. 25	5 49 12.32	9.0

(*) — 28° 55′.

Feb. 4	5 49 32.72	9.5

O. ARG. S. 4453.

Jan. 7	5 50 31.21	8.0
Feb. 4	31.07	7.8

(*) — 29° 13′.

Feb. 20	5 50 31.18	9.0

(*) — 29° 57′.

Feb. 28	5 50 37.06	7.5

(*) + 7° 26′.

Jan. 25	5 50 47.08	9.0

O. ARG. N. 6362.

Feb. 21	5 50 49.47	7.8
27	49.22	

LACAILLE 2065.

Jan. 30	5 51 6.22	

σ COLUMBÆ.

Feb. 6	5 51 27.51	

O. ARG. S. 4474.

Jan. 11	5 51 54.98	6.0

O. ARG. N. 6390.

Feb. 21	5 52 38.05	9.0

O. ARG. S. 4499.

Jan. 7	5 53 11.91	8.0
Feb. 13	11.93	

LACAILLE 2092.

Feb. 6	5 54 27.43	

O. ARG. S. 4527.

Feb. 20	5 55 0.47	9.0

O. ARG. S. 4534.

Jan. 11	5 55 21.12	7.0

LACAILLE 2096.

Feb. 1	5 55 56.30	7.0

LACAILLE 2108.

Feb. 21	5 56 33.54	6.0

(* 116) W.

Feb. 27	5 59 1.70	

LACAILLE 2124.

Jan. 30	5 59 30.33	5.5

(*) — 28° 36′.

Jan. 11	5 59 32.17	

(*) — 28° 37′.

Jan. 11	5 59 34.38	

O. ARG. S. 4613.

Feb. 1	5 59 36.41	

(*) + 14° 46′.

Jan. 20	6 0 1.51	
Feb. 6	1.66	
20	1.66	

ν ORIONIS.

Jan. 5	6 0 8.98	
7	9.05	
20	8.90	
Feb. 6	9.02	
21	9.05	
28	9.04	
Oct. 9	9.14	
Nov. 5	8.93	
Dec. 14	9.04	
21	8.96	
30	9.06	

WEISSE (2) 1980.

Mar. 4	6 0 24.05	8.8

LACAILLE 2130.

Feb. 2	6 1 5.23	5.3

(*) + 31° 13′.

Dec. 23	6 2 45.97	9.2

LALANDE 11684.

Mar. 4	6 2 48.77	8.5

WEISSE (2) 13.

Dec. 23	6 3 17.74	8.0

LALANDE 11714.

Feb. 28	6 3 40.57	8.0
Mar. 4	40.57	8.5

(*) + 31° 27′.

Feb. 2	6 3 54.82	9.0

(*) + 31° 27′.

Feb. 2	6 3 59.94	9.0

B. A. C. 1980.

Jan. 16	6 4 31.30	

LACAILLE 2163.

Jan. 30	6 4 34.93	

WEISSE 55.

Oct. 9	6 4 40.59	

(*) + 22° 32′.

Feb. 6	6 5 2.48	

WEISSE (2) 79.

Feb. 2	6 5 4.28	8.8
Dec. 21	4.29	

LACAILLE 2178.

Jan. 7	6 5 53.00	6.5

B. A. C. 1997.

Feb. 28	6 6 0.72	6.8

(*) — 26° 40′.

Feb. 1	6 6 34.49	9.0

η GEMINORUM.

Feb. 6	6 7 1.99	
20	1.93	
Mar. 4	1.92	
April 1	1.90	

71 ORIONIS.

1865.	h. m. s.	Mag.
Feb. 27	6 7 12.08	

LACAILLE 2189.

Feb. 20	6 7 53.64	

LACAILLE 2190.

Feb. 28	6 8 23.00	7.2

O. ARG. N. 6682.

Feb. 2	6 9 25.64	8.0
21	25.76	7.5

WEISSE (2) 328.

Dec. 14	6 13 22.70	7.5

μ GEMINORUM.

Feb. 27	6 15 5.76	
May 1	5.82	
July 12	5.69	
25	5.81	
27	5.85	
Aug. 10	5.75	
Oct. 8	5.76	
9	5.78	
10	5.75	
25	5.75	
Nov. 5	5.82	
29	5.72	
Dec. 28	5.72	
30	5.83	

WEISSE (2) 533.

Feb. 2	6 20 1.90	9.0

DORPAT 919, (1st *.)

Feb. 21	6 22 30.81	6.5
27	30.82	
28	30.84	7.3

DORPAT 919, (2d *.)

Feb. 21	6 22 31.23	7.0
27	31.12	
28	31.18	7.5

DORPAT 919, (3d *.)

Feb. 21	6 22 31.36	7.0
27	31.40	
28	31.38	7.5

(*) — 29° 56′.

Jan. 16	6 25 36.71	

O. ARG. S. 5251.

Jan. 16	6 26 53.35	

(*) — 31° 5′.

Feb. 2	6 27 2.13	7.5

LALANDE 12614.

Feb. 6	6 28 21.55	
March 5	21.40	

O. ARG. S. 5289.

Jan. 7	6 28 25.45	7.0
Feb. 28	25.39	7.0

(*) — 29° 58′.

Jan. 16	6 29 54.28	
Feb. 21	54.21	7.3

γ Geminorum.

1865.	h. m. s.	Mag.
Jan. 12	6 30 12.15	
Feb. 1	12.11	
2	12.09	
6	12.14	
14	12.10	
24	12.11	
27	12.05	
March 5	12.15	
April 1	12.11	
2	12.15	
24	12.09	
May 1	12.14	
July 27	12.15	
Aug. 8	12.21	
10	12.16	
Oct. 7	12.08	
9	12.09	
10	12.14	
Nov. 15	12.05	
Dec. 7	12.09	
14	12.14	
15	12.05	
21	12.05	
22	12.09	
23	12.18	
(*) + 16° 31′.		
Feb. 1	6 30 51.44	

Lacaille 2355.

Jan. 7	6 31 4.43	7.0
Feb. 4	4.41	8.0

Weisse (2) 935.

Feb. 14	6 32 10.53	
20	10.52	
21	10.35	8.0
27	10.36	
28	10.43	7.5

Weisse (2) 943.

Jan. 14	6 32 31.76	
Feb. 20	31.97	
21	31.93	9.0
28	31.89	8.2

O. Arg. S. 5410.

Jan. 16	6 32 50.07	

Lacaille 2372.

Feb. 4	6 32 52.83	7.0

O. Arg. S. 5450.

Jan. 7	6 34 11.81	6.7
(*) — 28° 18′.		
Feb. 4	6 34 19.67	

O. Arg. S. 5463.

Jan. 7	6 34 31.51	8.5
(*) + 23° 49′.		
Feb. 14	6 36 17.38	9.0
(*) + 23° 49′.		
Feb. 14	6 37 45.73	9.0

ζ Geminorum.

Jan. 4	6 37 59.67	
8	59.65	
Mar. 7	59.72	

51 Cephei.

1865.	h. m. s.	Mag.
Jan. 5	6 38 41.71	
20	44.71	
26	43.19	7.0
30	43.55	
Feb. 2	42.96	
21	42.32	
24	42.31	
Mar. 5	43.73	
11	45.20	
Dec. 7	43.65	
14	44.26	
15	43.27	
21	44.27	
22	44.03	
27	44.48	
28	44.29	

51 Cephei, S. P.

June 8	6 38 42.53	
22	41.89	
29	42.42	
July 6	43.78	
13	43.62	
14	44.90	
20	42.81	
21	42.88	
25	43.38	
26	46.01	
28	42.43	
Aug. 7	45.75	
8	43.50	
9	46.13	
12	42.93	
24	41.78	
26	43.63	
30	43.35	
31	45.93	
Sept. 27	44.17	
Oct. 9	44.88	
10	42.45	
Nov. 7	42.86	

Weisse (2) 1163.

Feb. 14	6 38 45.44	

Weisse (2) 1172.

Feb. 20	6 38 56.17	8.0
28	56.36	7.8
Mar. 13	56.19	
(*) + 13° 4′.		
Mar. 5	6 39 9.66	8.6

α Canis Majoris.

Jan. 14	6 39 25.04	
16	25.07	
20	24.99	
30	25.05	
Feb. 1	25.23	
24	25.09	
May 1	25.01	
15	25.11	
16	25.15	
17	25.12	
30	25.05	
June 8	25.08	
July 17	25.20	
21	(24.90)	
23	25.09	
27	25.00	
Aug. 7	25.19	
8	25.16	
10	25.20	

B. A. C. 2210.

Mar. 11	6 41 3.76	

Lacaille 2443.

1865.	h. m. s.	Mag
Jan. 26	6 41 13.48	6.7

O. Arg. N. 7251.

Feb. 2	6 42 22.09	8.5
21	21.68	8.8

O. Arg. S. 5732.

Feb. 4	6 43 48.10	8.0

Lacaille 2464.

Jan. 26	6 44 19.88	

Lacaille 2479.

Jan. 7	6 45 28.53	6.5
(*) — 31° 33′.		
Jan. 7	6 45 31.61	8.0
(*) — 30° 21′.		
Feb. 21	6 45 42.26	9.0
(*) — 28° 34′.		
Jan. 26	6 45 51.93	9.3
Feb. 28	52.00	8.0

O. Arg. S. 5790.

Mar. 11	6 45 58.80	8.0
(*) — 28° 32′.		
Jan. 26	6 45 59.31	9.5
(*) — 28° 32′.		
Jan. 26	6 45 59.50	9.5
(*) — 30° 15′.		
Feb. 20	6 47 9.53	9.0
21	9.44	7.5
(*) — 28° 29′.		
Jan. 26	6 47 10.73	9.0

B. A. C. 2266.

Jan. 20	6 48 23.51	
Feb. 6	23.46	
Mar. 13	23.60	
(*) — 28° 51′.		
Jan. 30	6 49 15.23	8.0

O. Arg. S. 5887.

Feb. 4	6 49 21.73	

Lacaille 2519.

Jan. 7	6 49 25.50	6.5
Feb. 20	25.43	

Lacaille 2524.

Jan. 30	6 50 8.81	7.0

Lacaille 2528.

1865.	h. m. s.	Mag.
Jan. 7	6 50 59.87	6.5
20	59.89	
Feb. 2	59.80	5.5
6	59.91	
20	59.84	
Mar. 13	59.87	

Lacaille 2544.

Feb. 21	6 53 10.67	7.5

ε Canis Majoris.

Jan. 5	6 53 31.02	
7	31.16	
26	31.10	
Mar. 6	31.01	
11	31.13	
13	31.04	
April 2	31.07	
May 1	30.95	
Oct. 9	30.91	

Lacaille 2553.

Feb. 2	6 53 45.23	6.0
6	45.37	
(*) — 26° 10′.		
Jan. 20	6 53 46.12	

O. Arg. S. 6004.

Feb. 4	6 53 58.23	
Mar. 6	58.34	

Lacaille 2562.

Feb. 20	6 54 39.71	
(*) — 29° 30′.		
Jan. 30	6 55 7.78	9.0

Lacaille 2566.

Feb 6	6 55 11.39	
(*) — 30° 55′.		
Feb. 6	6 55 15.75	

Lacaille 2571.

Jan. 30	6 55 34.29	8.0

ζ Geminorum.

Jan. 10	6 56 23.92	
Mar. 6	23.91	
Oct. 10	23.91	
Nov. 7	24.00	

44 Geminorum.

Feb. 2	6 57 28.75	5.5
20	28.84	7.0
21	28.80	

γ Canis Majoris.

Jan. 5	6 57 52.72	
15	52.65	
26	52.73	
28	52.67	
Mar. 13	52.70	

Weisse (2) 1747.

Feb. 2	6 58 27.87	8.3

(*) — 30° 33′.

1865.	h. m. s.	Mag.
Feb. 6 . .	6 59 20.44	

(* 79) W.

Feb. 2 . .	7 1 55.84	7.6
21 . .	55.92	7.8
28 . .	55.84	
Mar. 6 . .	55.94	7.5
7 . .	55.88	7.5
11 . .	56.05	
13 . .	56.01	8.0
Nov. 7 . .	55.92	8.0

(*) — 26° 5′.

Jan. 30 . .	7 2 10.66	8.0

Lacaille 2623.

Jan. 30 . .	7 2 18.84	
Feb. 6 . .	18.71	8.0
13 . .	18.70	
20 . .	18.82	

O. Arg. S. 6262.

Feb. 6 . .	7 2 44.23	
20 . .	44.48	

δ Canis Majoris.

Jan. 30 . .	7 3 6.33	
Feb. 6 . .	6.37	
13 . .	6.39	
20 . .	6.36	
Aug. 1 . .	6.45	

Σ Cat. Gen. 825, (1st *.)

Feb. 21 . .	7 4 12.82	8.0
Mar. 11 . .	12.78	

Σ Cat. Gen. 825, (2d *.)

Feb. 21 . .	7 4 13.26	8.0

Lacaille 2641.

Feb. 13 . .	7 4 21.63	7.0

(*) — 24° 52′.

Feb. 13 . .	7 4 23.46	

Lacaille 2647.

Jan. 20 . .	7 5 6.16	3.0

O. Arg. N. 7623.

Mar. 7 . .	7 5 27.46	7.2

Lacaille 2655.

Jan. 30 . .	7 6 51.45	7.0

Lacaille 2659.

Jan. 20 . .	7 7 10.77	6.0

Lacaille 2666.

Feb. 20 . .	7 8 22.47	

O. Arg. S. 6442.

Feb. 20 . .	7 8 38.82	9.0

O. Arg. N. 7681.

Feb. 2 . .	7 8 47.67	8.3
21 . .	47.26	9.0
Mar. 7 . .	47.87	8.5

O. Arg. S. 6490.

1865.	h. m. s.	Mag.
Feb. 13 . .	7 10 8.29	

λ Geminorum.

Feb. 6 . .	7 10 37.37	
April 2 . .	37.36	
Oct. 10 . .	37.34	
Nov. 7 . .	37.44	

Lacaille 2695.

Jan. 30 . .	7 11 3.91	8.5
Mar. 13 . .	4.00	

Weisse (2) 327.

Feb. 21 . .	7 11 37.58	7.5
Mar. 11 . .	37.70	8.0

(*) — 29° 28′.

Feb. 13 . .	7 11 53.37	

O. Arg. S. 6553.

Feb. 20 . .	7 11 55.81	

O. Arg. S. 6554.

Feb. 20 . .	7 11 55.83	

δ Geminorum.

Feb. 6 . .	7 12 21.54	
21 . .	21.43	
Mar. 11 . .	21.45	
Aug. 1 . .	21.43	
Nov. 7 . .	21.47	

O. Arg. N. 7755.

Feb. 2 . .	7 12 45.57	7.5

O. Arg. S. 6600.

Jan. 20 . .	7 13 33.75	5.0
Feb. 13 . .	33.56	5.0

(*) — 30° 57′.

Jan. 30 . .	7 13 44.23	9.0

O. Arg. S. 6623.

Feb. 13 . .	7 14 22.26	8.0

O. Arg. S. 6666.

Feb. 20 . .	7 15 44.27	7.0

Lacaille 2753.

Mar. 7 . .	7 15 54.61	7.0

O. Arg. S. 6678.

Jan. 20 . .	7 16 16.68	
Feb. 20 . .	16.58	
21 . .	16.38	7.3
Mar. 13 . .	16.50	

(*) + 16° 58′.

Mar. 11 . .	7 17 18.83	8.0

(*) + 16° 58′.

Mar. 11 . .	7 17 27.20	9.0

(*) — 30° 58′.

Jan. 30 . .	7 17 38.19	7.5
Mar. 7 . .	38.04	7.3

Lacaille 2768.

1865.	h. m. s.	Mag.
Feb. 13 . .	7 18 14.88	8.0

(*) — 31° 1′.

Jan. 30 . .	7 18 33.92	6.0
Mar. 6 . .	33.82	
7 . .	33.77	7.0

O. Arg. S. 6748.

Jan. 20 . .	7 18 44.17	7.0
Feb. 2 . .	44.04	8.0
21 . .	43.99	7.5
Mar. 13 . .	44.11	

η Canis Majoris.

Jan. 20 . .	7 18 57.23	3.0
Feb. 2 . .	57.18	3.5
21 . .	57.28	4.0
Mar. 13 . .	57.18	3.5

63 Geminorum.

Feb. 20 . .	7 20 1.43	

Lacaille 2797.

Mar. 18 . .	7 20 15.16	7.0

O. Arg. S. 6810.

Jan. 20 . .	7 20 47.61	

Weisse 625.

Mar. 5 . .	7 21 14.16	8.8

Weisse 641.

Mar. 5 . .	7 21 44.96	7.8

6 Canis Majoris.

Feb. 13 . .	7 22 33.65	
Mar. 6 . .	33.60	

Lacaille 2813.

Jan. 30 . .	7 22 43.98	
Feb. 2 . .	43.83	6.0
20 . .	43.85	

O. Arg. S. 6907.

Feb. 21 . .	7 24 10.30	7.7

Lalande 14620.

Mar. 7 . .	7 24 18.62	6.0

(*) — 24° 0′.

Mar. 18 . .	7 24 20.70	9.2

O. Arg. S. 6948.

Feb. 2 . .	7 25 32.20	8.0
Mar. 6 . .	32.28	7.0
11 . .	32.14	

O. Arg. S. 6949.

Feb. 2 . .	7 25 32.44	8.3
Mar. 6 . .	32.52	7.0

Weisse (2) 727.

Feb. 13 . .	7 25 40.83	8.0

68 Geminorum.

Jan. 11 . .	7 26 11.37	
Oct. 10 . .	11.32	

a^1 Geminorum.

1865.	h. m. s.	Mag.
Jan. 20 . .	7 26 17.95	
Mar. 5 . .	17.78	
Feb. 20 . .	17.82	
May 1 . .	17.81	
29 . .	17.82	

a^2 Geminorum.

Jan. 20 . .	7 26 18.03	
30 . .	17.91	
Mar. 5 . .	18.13	
May 1 . .	18.17	
29 . .	18.12	
June 9 . .	18.16	
Aug. 8 . .	18.04	
10 . .	18.09	
22 . .	18.10	
25 . .	18.18	

Lacaille 2852.

Feb. 28 . .	7 28 30.96	7.0
Mar. 7 . .	30.90	7.0

Lacaille 2859.

Feb. 28 . .	7 29 19.16	6.0

O. Arg. S. 7063.

Feb. 2 . .	7 29 37.84	7.8
21 . .	37.76	7.5
Mar. 13 . .	(38.05)	8.5
18 . .	37.95	7.5

(*) — 29° 40′.

Mar. 6 . .	7 30 26.50	

(*) — 29° 44′.

Mar. 6 . .	7 30 37.18	

O. Arg. S. 7100.

Feb. 2 . .	7 30 46.06	8.5
Mar. 18 . .	46.29	8.9

O. Arg. S. 7101.

Mar. 11 . .	7 30 51.68	8.0

O. Arg. S. 7107.

Feb. 2 . .	7 30 59.28	7.5

O. Arg. S. 7131.

Mar. 11 . .	7 31 47.66	8.0

Weisse (2) 915.

Feb. 28 . .	7 32 0.81	8.5

α Canis Minoris.

Jan. 11 . .	7 32 29.85	
25 . .	29.77	
30 . .	29.76	
Mar. 5 . .	29.74	
7 . .	29.87	
May 1 . .	29.78	
17 . .	29.68	
23 . .	29.81	
29 . .	29.77	
30 . .	29.76	
June 3 . .	29.77	
5 . .	29.88	
9 . .	29.78	
14 . .	29.76	
19 . .	29.87	
23 . .	29.76	
27 . .	29.74	
28 . .	29.80	
30 . .	29.78	

α Canis Minoris—Continued.

1865.	h. m. s.	Mag.
July 3	7 32 29.79	
7	29.91	
20	29.92	
22	29.71	
23	29.85	
Aug. 1	29.82	
7	29.86	
8	29.77	
10	29.81	
14	29.91	
19	29.79	
22	29.85	
23	29.78	
24	29.75	
Oct. 10	29.76	
Nov. 9	29.82	

O. Arg. S. 7167.

Feb. 21	7 33 7.87	7.6

B. A. C. 2526.

Jan. 11	7 33 12.67	6.0
15	12.66	7.0
Mar. 5	12.70	7.6

(*) + 5° 36′.

Mar. 5	7 33 57.92	9.4

(*) + 21° 12′.

Feb. 28	7 34 35.00	

Weisse (2) 1022.

Feb. 21	7 35 31.27	9.0
Nov. 9	31.22	9.0

β Geminorum.

Jan. 25	7 37 21.45	
Feb. 2	21.53	
Mar. 5	21.52	
18	21.48	
May 1	21.56	
23	21.59	
29	21.49	
30	21.45	
June 3	21.48	
5	21.58	
9	21.48	
14	21.59	
18	21.47	
23	21.57	
28	21.59	
30	21.49	
July 3	21.55	
25	21.46	
27	21.57	
Aug. 1	21.55	
2	21.52	
7	21.49	
8	21.46	
10	21.48	
14	21.46	
19	21.59	
22	21.52	
23	21.45	
24	21.44	
25	21.54	

Lalande 15073.

Feb. 28	7 38 27.18	7.6
Mar. 7	27.18	7.8
11	27.36	7.8
Nov. 9	27.08	7.8

Weisse 1181.

Feb. 21	7 39 29.91	7.0

Weisse 1182.

Feb. 21	7 39 30.29	7.0
Mar. 13	30.49	

Weisse (2) 1143.

Feb. 6	7 40 16.10	8.0
28	16.03	7.5
Mar. 7	16.02	8.0
11	16.09	8.0
9	15.93	

(*) — 11 52.

Feb. 2	7 41 12.60	8.0
21	12.54	8.0

Weisse 1232.

Feb. 2	7 41 51.52	8.2
21	51.48	8.2

Weisse 1238.

Feb. 2	7 42 24.47	8.0
21	24.37	8.2

O. Arg. S. 7470.

Mar. 17	7 43 29.06	7.6

25 Lyncis.

Feb. 28	7 45 1.56	7.0
Mar. 13	1.45	6.0
Nov. 9	1.34	

φ Geminorum.

Feb. 4	7 45 32.35	
Mar. 11	32.31	

Weisse (2) 1305.

Feb. 6	7 46 34.00	
21	33.96	7.6
28	33.91	7.2
Mar. 18	34.04	7.0
23	33.28	7.8

(*) — 26° 2′.

Feb. 2	7 47 41.28	

(*) — 26° 2′.

Feb. 2	7 48 34.78	8.0

O. Arg. N. 8445.

Nov. 9	7 49 6.72	9.0

(*) + 12° 3′.

Mar. 18	7 49 16.10	8.0

1 Cancri.

Jan. 11	7 49 36.55	

(* 133) W.

Feb. 6	7 49 45.49	
28	45.30	8.0
Mar. 11	45.47	
13	45.42	
18	45.41	7.8

Weisse 1459.

Feb. 21	7 49 59.09	9.0
28	59.18	9.0
Mar. 23	59.06	9.0

O. Arg. N. 8459.

Nov. 9	7 50 19.60	8.0

(*) + 12° 3′.

Mar. 11	7 50 58.91	8.5

Weisse 1504.

Mar. 11	7 51 46.09	8.0

O. Arg. S. 7769.

Feb. 2	7 53 33.74	7.5
21	33.79	7.8

5 Cancri.

Jan. 11	7 54 5.63	

6 Cancri.

Feb. 13	7 55 31.98	
Mar. 7	31.84	
13	31.84	

Weisse (2) 1520.

Feb. 13	7 55 52.97	

Weisse 1624.

Feb. 28	7 56 10.36	8.5
Mar. 6	10.35	
Nov. 9	10.29	8.3

8 Cancri.

Feb. 6	7 57 49.95	

μ^2 Cancri.

Feb. 13	8 0 6.68	

Weisse 1763.

Mar. 7	8 0 45.74	6.5

ρ Argus.

Mar. 6	8 2 0.49	

(*) — 33° 11′.

Feb. 13	8 3 2.33	

Lacaille 3165.

Feb. 6	8 3 52.95	8.0

ζ^1 Cancri, (1st *.)

Jan. 12	8 4 45.16	
Feb. 2	45.18	7.0
21	45.34	6.5
Mar. 7	45.31	

ζ Cancri, (2d *.)

Jan. 12	8 4 45.51	
Feb. 2	45.49	8.0
21	45.60	7.0
Mar. 7	45.43	

Weisse (2) 83.

Mar. 18	8 5 48.85	8.0
23	48.69	8.2

(*) — 28° 33′.

Feb. 6	8 6 44.21	
13	43.87	

O. Arg. S. 8225.

Jan. 26	8 7 42.50	

Lacaille 3209.

Feb. 21	8 8 28.20	7.0

(*) + 20° 21′.

Feb. 1	8 9 20.63	(9)

O. Arg. S. 8280.

Jan. 26	8 9 47.69	

(*) — 30° 7′.

Feb. 13	8 10 31.50	8.5

Weisse (2) 221.

Feb. 21	8 11 27.77	8.8
28	27.62	8.5
Mar. 18	27.71	8.8
23	27.66	8.5
Nov. 9	27.64	8.5

(*) — 34° 59′.

Feb. 13	8 13 34.59	9.0

(*) — 26° 40′.

Jan. 18	8 14 16.11	
Feb. 2	16.07	7.5

(*) — 30° 28′.

Feb. 6	8 14 51.60	

d^1 Cancri.

Mar. 1	8 15 55.19	6.0

Weisse 381.

Nov. 9	8 15 59.07	9.0

Weisse 389.

Feb. 21	8 16 12.41	9.2
28	12.26	9.0

(*) — 29° 12′.

Feb. 13	8 17 14.12	

Lacaille 3290.

Jan. 18	8 17 33.11	

Lacaille 3293.

Feb. 1	8 18 7.79	8.0

O. Arg. S. 8484.

Feb. 2	8 18 15.20	7.0

Dorpat 1223, (1st *.)

Feb. 21	8 18 55.13	7.0
28	55.12	7.0
Mar. 11	55.18	
18	55.25	
23	55.15	7.0

Dorpat 1223, (2d *.)

Feb. 21	8 18 55.36	7.0
28	55.34	
Mar. 11	55.42	
18	55.45	
23	55.34	7.0

(*) — 27° 22′.

1865.	h. m. s.	Mag.
Feb. 1	8 19 8.90	

(*) — 26° 40′.

Feb. 6	8 20 49.42	
13	49.30	7.0

29 Cancri.

Jan. 16	8 21 22.07	6.0
Mar. 7	21.99	6.0

B. A. C. 2843.

Jan. 12	8 22 2.91	7.0
Feb. 2	2.95	6.0

Weisse (2) 490.

Feb. 21	8 22 8.93	9.0
28	8.93	9.0
Mar. 23	8.92	9.0
Nov. 9	8.96	9.0

(*) — 28° 10′.

Mar. 6	8 23 7.79	

(*) — 29° 55′.

Feb. 1	8 23 32.43	8.9

(*) — 28° 10′.

Mar. 6	8 23 41.08	

Lacaille 3341.

Mar. 6	8 23 47.02	

(*) — 26° 52′.

Jan. 26	8 23 59.57	
Feb. 13	59.42	6.0
Mar. 18	59.51	

(*) + 19° 51′.

Jan. 19	8 24 12.56	7.3

η Cancri.

Jan. 12	8 25 11.28	
16	11.32	
Feb. 2	11.30	
21	11.32	
28	11.30	6.0
Mar. 7	11.29	5.8
23	11.34	
Nov. 9	11.21	

(*) — 19° 48′.

Feb. 1	8 26 2.41	8.0

(*) — 19° 46′.

Feb. 1	8 26 54.01	9.0

(*) — 23° 40′.

Mar. 6	8 27 43.14	

35 Cancri.

Jan. 26	8 27 50.83	

B. A. C. 2886.

Feb. 2	8 28 16.18	
28	16.13	
Mar. 11	16.23	(8)
Nov. 9	16.10	

Dorpat 1245, (1st *.)

Mar. 18	8 28 56.37	7.0

Dorpat 1245, (2d *.)

Mar. 18	8 28 56.66	8.5

(*) — 26° 38′.

Jan. 19	8 29 0.08	5.5

(*) + 20° 3′.

Jan. 26	8 29 33.69	
Feb. 21	33.80	8.2
Nov. 9	33.71	

c^1 Cancri.

Jan. 20	8 30 2.88	
Feb. 6	2.95	
18	2.81	

(*) + 20° 30′.

Mar. 23	8 30 4.44	

Weisse (2) 708.

Feb. 28	8 30 8.51	
Mar. 11	8.50	

Weisse (2) 713.

Jan. 26	8 30 12.73	
Feb. 21	12.80	9.0
Mar. 6	12.78	
Nov. 9	12.70	

Lalande 16960.

Mar. 18	8 30 36.58	8.2

(*) + 20° 28′.

Mar. 23	8 31 8.82	

(*) + 19° 58′.

Jan. 26	8 31 19.19	
Mar. 6	19.23	
Nov. 9	19.17	

Weisse (2) 756.

Feb. 28	8 31 34.58	

(*) + 20° 29′.

Mar. 7	8 31 34.59	
23	34.51	

(*) + 6° 17′.

Feb. 4	8 31 36.56	10.0
21	8 31 38.01	
28	37.98	
Mar. 11	38.02	
Nov. 9	37.74	

B. A. C. 2907.

Jan 26	8 31 41.15	
Feb. 21	41.28	

(*) + 20° 8′.

Feb. 21	8 31 42.09	
28	42.09	

(*) + 20° 31′.

Mar. 23	8 31 50.05	

(*) + 20° 31′.

Mar. 23	8 32 13.64	

38 Cancri.

Feb. 28	8 32 14.38	
Mar. 11	14.49	
Nov. 9	14.34	

B. A. C. 2914.

Mar. 6	8 32 23.06	

Weisse (2) 790.

Mar. 6	8 32 28.87	

Weisse (2) 793.

Mar. 6	8 32 30.20	

39 Cancri.

Feb. 6	8 32 37.71	
Mar. 7	37.49	
23	37.54	
27	37.62	

40 Cancri.

Feb. 6	8 32 42.88	7.0
Mar. 7	42.71	
23	42.63	

(*) + 20° 28′.

Mar. 23	8 32 46.48	

Lalande 17053.

Feb. 4	8 32 48.55	

(*) + 20° 10′.

Feb. 21	8 32 52.81	
28	52.79	
Nov. 9	52.70	

B. A. C. 2919.

Jan. 26	8 32 54.11	
Feb. 21	54.26	

(*) + 20° 10′.

Feb. 21	8 32 58.28	

ε Cancri.

Mar. 6	8 32 59.43	

(*) + 6° 1′.

Feb. 2	8 33 6.02	9.0

42 Cancri.

Jan. 26	8 33 15.25	
Feb. 21	15.26	
28	15.26	
Nov. 9	15.21	

B. A. C. 2925.

Jan. 26	8 33 28.66	
Mar. 6	28.84	
27	28.47	
Nov 9	28.63	

Weisse 829.

Mar. 7	8 33 45.38	
23	45.37	
27	45.41	

Weisse 841.

Jan. 26	8 34 7.16	
Feb. 21	7.27	
28	7.25	

(*) + 20° 8′.

Feb. 21	8 34 14.71	
28	14.75	

B. A. C. 2931.

Mar. 7	8 34 21.91	
17	21.88	7.0
23	21.86	

(*) + 20° 25′.

Mar. 27	8 34 23.01	

(*) + 20° 39′.

Mar. 18	8 34 24.31	8.0

(*) + 5° 54′.

Feb. 1	8 34 26.45	9.5

(*) + 20° 0′.

Mar. 6	8 34 39.79	

Weisse 866.

Mar. 18	8 34 52.85	(9.0)
27	52.77	

O. Arg. S. 8852.

Feb. 20	8 34 55.83	(6.0)

O. Arg. S. 8856.

Feb. 20	8 35 5.98	9.0

(*) + 20° 2′.

Feb. 21	8 35 13.81	
28	13.61	

(*) + 20° 5′.

Feb. 21	8 35 17.15	
28	17.18	

(*) + 20° 41′.

Feb. 2	8 36 6.81	9.2

δ Cancri.

Feb. 6	8 37 17.82	

Dorpat 1270, (1st *.)

Mar. 17	8 38 46.38	

Dorpat 1270, (2d *.)

Mar. 17	8 38 46.77	

Dorpat 1273, (1st *.)

Feb. 28	8 39 53.39	9.0

ε Hydræ.

1865.	h. m. s.	Mag.
Jan. 19	8 39 53.39	
26	53.49	
30	53.45	
Feb. 1	53.41	
4	53.46	
20	53.47	
28	53.54	
Mar. 6	53.47	
11	53.43	
17	53.47	
18	53.51	
20	53.55	
23	53.46	
27	53.39	
May 2	53.48	
Nov. 8	53.50	

(*) — 37° 27′.

Mar. 6	8 43 44.61	7.0
18	44.77	7.5

(*) — 27° 42′.

Feb. 20	8 44 12.17	8.0

O. Arg. S. 9040.

Feb. 28	8 44 17.85	8.5

(*) — 35° 22′.

Mar. 11	8 45 16.93	7.8

(*) — 29° 51′.

Mar. 6	8 46 20.18	

Lacaille 3582.

Mar. 23	8 48 50.12	7.0

(*) — 35° 5′.

Mar. 11	8 48 53.07	8.8

17 Hydræ, (1st *.)

Feb. 28	8 49 7.27	7.5
Mar. 17	7.23	
18	7.29	7.8
20	7.41	

17 Hydræ, (2d *.)

Feb. 28	8 49 7.28	7.5
Mar. 17	7.26	
18	7.33	7.8
20	7.47	

(*) — 37° 46′.

Mar. 6	8 49 49.65	

(*) — 31° 35′.

Feb. 20	8 49 57.58	9.0

(*) — 37° 45′.

Mar. 6	8 50 18.34	

α Cancri.

Jan. 12	8 51 22.45	
14	22.64	

O. Arg. S. 9178.

Mar. 23	8 51 23.68	7.8

Lacaille 3617.

1865.	h. m s.	Mag.
Mar. 18	8 53 24.82	
23	24.66	7.2

Lacaille 3621.

Feb. 20	8 54 8.71	7.0
Mar. 6	8.70	7.0

B. A. C. 3082.

Feb. 28	8 55 33.13	6.5
Mar. 6	33.16	
7	33.11	5.5
23	33.06	6.5

(*) — 30° 10′.

Mar. 18	8 55 57.77	8.8

(*) — 35° 6′.

Mar. 6	8 56 50.35	

σ² Ursæ Majoris.

Mar. 20	8 58 54.84	

O. Arg. S. 9310.

Feb. 20	8 58 56.88	
Mar. 7	56.72	7.7
18	56.78	

O. Arg. S. 9321.

Mar. 6	8 59 19.29	8.5
11	19.55	8.5
23	19.22	8.5

κ Cancri.

Jan. 12	9 0 42.17	
19	42.30	
26	42.18	
28	42.21	
Mar. 20	42.30	
Nov. 8	42.23	
9	42.27	

O. Arg. S. 9344.

Feb. 20	9 0 45.18	
Mar. 11	45.21	
18	45.15	

(*) + 81° 50′.

Mar. 6	9 1 34.05	

(*) — 23° 32′.

Mar. 18	9 1 49.42	8.8

(*) — 27° 38′.

Mar. 7	9 2 12.82	7.6

O. Arg. S. 9418.

Feb. 20	9 4 2.67	7.0

Carrington 1338.

Feb. 28	9 5 48.16	9.0
Mar. 6	49.48	
23	48.60	9.2

(*) — 23° 33′.

Mar. 11	9 6 15.74	7.8

Lacaille 3716.

1865.	h. m. s.	Mag.
Mar. 18	9 6 41.86	

Lacaille 3718.

Mar. 7	9 6 46.93	7.0

π² Cancri.

Feb. 20	9 8 3.25	

O. Arg. S. 9488.

Mar. 11	9 8 5.35	
20	5.34	

Weisse 153.

Feb. 20	9 8 42.26	

Lacaille 3741.

Mar. 18	9 9 30.76	7.0

Lacaille 3750.

Feb. 28	9 10 10.49	6.0

(*) — 27° 41′.

Mar. 11	9 10 17.80	7.5

Weisse (2) 198.

Mar. 23	9 10 54.37	8.5

83 Cancri.

Mar. 27	9 11 43.31	
April 6	43.38	

B. A. C. 3174.

Feb. 28	9 11 51.36	6.0
Mar. 18	51.50	4.6

(*) — 28° 30′.

Feb. 20	9 12 9.51	8.5

Dorpat 1343, (1st *.)

Mar. 6	9 13 8.50	
17	8.35	
20	8.61	
23	8.43	9.0

Dorpat 1343, (2d *.)

Mar. 6	9 13 9.09	
17	9.12	
20	9.11	
23	9.11	9.0

(*) — 26° 34′.

Mar. 11	9 14 20.03	

(*) — 28° 38′.

Feb. 20	9 14 49.20	7.0

λ Mali.

Mar. 18	9 15 44.28	4.2

(*) — 14° 54′.

Feb. 28	9 16 50.03	9.0

Lacaille 3802.

Feb. 20	9 17 13.11	
Mar. 6	13.13	8.5

(*) — 14° 54′.

1865.	h. m. s.	Mag.
Feb. 28	9 17 15.76	9.0

(*) — 34° 54′.

Mar. 23	9 17 29.84	6.5

O. Arg. S. 9661.

Feb. 20	9 17 39.13	8.0

(*) — 28° 29′.

Mar. 23	9 17 41.40	8.0

(*) — 28° 28′.

Mar. 23	9 17 52.10	8.0

(*) — 14° 54′.

Feb. 28	9 18 11.43	8.5

1 Draconis.

Mar. 7	9 18 21.13	5.
20	19.39	

(*) — 8° 2′.

Mar. 18	9 20 1.52	9.0

Lalande 18604.

Feb. 20	9 20 49.33	7.0
21	49.20	7.7

(*) — 27° 47′.

Mar. 27	9 20 58.61	8.0

(*) — 34° 55′.

Mar. 11	9 21 11.23	

α Hydræ.

Mar. 4	9 21 11.95	
6	12.03	
18	11.97	
23	11.95	
April 8	11.95	
May 2	12.00	
3	11.92	
June 29	12.03	
July 6	11.95	
Aug. 25	11.94	
Sept. 11	11.99	
15	11.96	
21	11.94	

ω Leonis.

April 6	9 21 29.60	

ε Antliæ.

Mar. 10	9 23 52.85	

θ Ursæ Majoris.

Mar. 20	9 24 9.08	

Lacaille 3874.

Feb. 28	9 24 13.86	7.5

Lacaille 3864.

Mar. 27	9 24 15.85	8.0

(*) — 27° 36′.

Mar. 27	9 24 32.04	8.0

λ Leonis.

1865.	h. m. s.	Mag.
Feb. 20	9 24 59.34	
May 3	59.37	

(*) — 36° 5′.

Mar. 10	9 25 21.52	

Lacaille 3889.

Feb. 21	9 26 7.57	6.0
Mar. 6	7.58	

(*) — 36° 8′.

Mar. 7	9 26 9.91	6.7

Lacaille 3903.

Feb. 28	9 27 53.52	6.0
Mar. 7	53.48	6.0
10	53.46	6.0
23	53.47	7.0

Lacaille 3905.

Feb. 21	9 28 2.59	7.0

O. Arg. S. 9888.

Mar. 6	9 29 39.10	8.0

O. Arg. S. 9903.

Feb. 21	9 30 19.52	7.0

10 Leonis.

Feb. 6	9 30 20.84	
April 6	20.80	
May 1	20.87	
3	20.72	
Nov. 9	20.89	

Weisse (2) 639.

Jan. 14	9 30 37.60	

(*) — 35° 25′.

Feb. 28	9 30 47.62	8.0

O. Arg. S. 9914.

Mar. 4	9 31 1.17	9.0

(*) + 35° 4′.

Mar. 27	9 31 29.90	8.0

Lacaille 3946.

Feb. 28	9 32 3.33	5.5
Mar. 23	3.27	6.0

O. Arg. S. 9956.

Mar. 4	9 32 49.32	9.0

(*) — 38° 59′.

Feb. 2	9 33 50.12	7.0

o Leonis.

April 6	9 34 12.74	
May 2	12.79	
3	12.66	
Nov. 9	12.73	

(*) — 35° 21′.

Mar. 10	9 34 21.26	

Lacaille 3975.

1865.	h. m. s.	Mag.
Feb. 28	9 35 50.81	6.0
Mar. 27	50.90	

(*) — 37° 52′.

Mar. 23	9 36 16.20	7.5

(*) — 23° 41′.

Mar. 4	9 36 24.76	9.0

Lacaille 3984.

Feb. 28	9 37 17.19	7.0

ε Leonis.

Feb. 6	9 38 28.13	
21	28.14	
Mar. 17	28.14	
27	28.17	
May 2	28.10	
Nov. 10	28.15	
Dec. 7	28.08	

B. A. C. 3336.

April 6	9 39 18.49	
May 3	18.43	

Weisse (2) 819.

Mar. 23	9 39 24.41	9.0

Weisse (2) 832.

Mar. 7	9 40 1.57	8.3
17	1.66	
20	1.64	
23	1.67	8.0

(*) — 29° 39′.

April 6	9 41 27.38	9.0

O. Arg. S. 10130.

Feb. 28	9 42 49.10	7.8

Weisse 929.

Mar. 10	9 43 46.78	
17	46.81	
20	46.91	
27	46.93	
April 6	46.84	8.0

μ Leonis.

Jan. 14	9 45 21.98	
30	22.01	
Feb. 2	21.84	
28	21.97	
Mar. 7	21.94	
13	21.94	
April 8	21.90	
May 3	21.86	

(*) + 15° 20′.

Mar. 20	9 46 26.42	9.5

(* 114) W.

Mar. 27	9 46 33.74	

Rumker 2988.

Mar. 17	9 46 43.89	
20	43.88	7.5
April 6	43.84	

(*) + 14° 58′.

1865.	h. m. s.	Mag.
Mar. 10	9 46 43.92	

(*) — 37° 45′.

April 1	9 47 56.60	

(*) — 27° 47′.

Feb. 2	9 48 31.95	

(*) — 40° 5′.

Mar. 23	9 49 44.58	8.5

(*) — 40° 8′.

Mar. 7	9 50 43.85	6.0
23	43.87	6.5

Lacaille 4095.

Feb. 28	9 53 17.67	5.8
Mar. 7	17.52	6.0

π Leonis.

Jan. 14	9 53 20.60	
Feb. 2	20.57	
Mar. 27	20.62	
April 6	20.58	
8	20.63	
May 3	20.50	
Nov. 9	20.62	
10	20.59	
Dec. 7	20.59	

(*) — 38° 55′.

Mar. 10	9 55 40.52	7.0

Lacaille 4107.

Feb. 28	9 55 46.89	7.3
Mar. 10	46.91	5.0

O. Arg. S. 10324.

Mar. 7	9 57 42.52	6.5
23	42.57	6.5
27	42.52	
April 8	42.61	7.5

Lacaille 4126.

Mar. 20	9 58 21.03	5.0

(*) + 13° 13′.

April 6	9 58 29.99	9.0

O. Arg. S. 10346.

Mar. 10	9 58 55.08	
13	55.19	

Lacaille 4135.

Feb. 28	9 58 55.32	6.5

Lacaille 4134.

Mar. 10	9 59 17.95	
13	18.05	

(*) — 23° 16′.

Mar. 20	10 0 50.27	

Weisse 1296.

Mar. 21	10 1 17.28	
April 1	17.17	8.4

(*) — 24° 18′.

1865.	h. m. s.	Mag.
Mar. 7	10 1 23.72	7.5
27	23.80	8.0
April 14	23.81	

α Leonis.

Jan. 14	10 1 26.82	
Mar. 21	26.80	
April 1	26.85	
8	26.84	
May 3	26.82	
30	26.90	
June 27	26.82	
July 6	26.80	
7	26.74	
14	26.83	
18	26.79	
21	26.88	
27	26.82	
28	26.84	
Aug. 3	26.84	
Sept. 11	26.80	
20	26.88	
21	26.81	
24	26.92	
26	26.83	
27	26.89	
28	26.81	
29	26.80	
Nov. 10	26.79	

(*) — 24° 15′.

Mar. 27	10 2 1.12	
April 4	1.19	

(*) + 12° 56′.

April 6	10 2 24.89	9.2
25	24.98	9.3

B. A. C. 3466.

Mar. 17	10 3 8.24	

(*) + 12° 57′.

April 6	10 3 12.95	8.5
25	13.02	9.0

(*) — 36° 4′.

Feb. 28	10 4 14.37	8.2
Mar. 10	14.19	

(*) — 37° 25′.

Mar. 10	10 6 38.59	

Weisse 94.

Mar. 27	10 7 2.45	
April 6	2.26	8.4

Weisse 96.

April 6	10 7 14.11	9.0

(*) — 39° 58′.

April 1	10 7 22.53	9.2

(*) — 29° 43′.

Feb. 28	10 7 34.24	8.5

22 Leonis Minoris.

Mar. 17	10 7 38.13	

Lacaille 4196.

April 13	10 7 40.39	6.0

O. Arg. S. 10471.

1865.	h.	m.	s.	Mag.
Mar. 7	10	8	4.18	5.0
13			4.33	6.0
20			4.30	5.0
22			4.24	

Weisse 116.

April 14	10	8	13.71	7.5

(*) — 38° 36′.

April 8	10	8	38.15	

(*) — 36° 27′.

Mar. 10	10	8	49.89	

(*) — 38° 36′.

April 1	10	10	3.18	8.8

Lacaille 4218.

Mar. 7	10	10	8.71	7.0
20			9.00	6.5
27			8.87	
April 14			8.94	
May 1			8.87	

Lacaille 4227.

April 25	10	11	4.31	7.0

γ^1 Leonis.

Feb. 28	10	12	48.16	
Mar. 17			48.15	
22			48.15	
April 13			48.06	
25			48.18	
26			48.08	
May 3			48.15	
June 28			48.18	
July 6			48.16	
7			48.08	
18			48.17	
27			48.24	
28			48.15	
Sept. 20			48.11	
21			48.19	
22			48.16	
25			48.23	
26			48.15	
28			48.14	
29			48.17	
Oct. 5			48.09	
6			48.13	
8			48.22	
11			48.08	

γ^2 Leonis.

Feb. 28	10	12	48.28	
Mar. 22			48.36	
April 26			48.26	
May 3			48.24	
27			48.23	

(*) — 3° 34′.

April 1	10	12	53.83	9.0

(*) — 3° 37′.

Mar. 27	10	13	33.08	
April 1			33.02	8.0
8			33.05	8.0

(*) — 22° 57′.

Mar. 13	10	14	26.75	9.0
May 2			26.57	7.5

(*) — 23° 0′.

1865.	h.	m.	s.	Mag.
Mar. 27	10	15	21.97	
April 14			21.95	7.0
May 1			21.89	7.0

(*) — 27° 33′.

Feb. 28	10	15	35.59	9.0
Mar. 20			35.85	

Weisse (2) 290.

Mar. 17	10	15	37.69	8.0

43 Leonis.

April 6	10	16	12.24	

Lalande 20114.

April 1	10	16	21.78	7.6

(*) — 27° 19′.

Mar. 22	10	16	51.25	
May 2			51.32	8.9

B. A. C. 3554.

Mar. 27	10	17	15.49	
April 1			15.47	6.8
13			15.45	

(*) — 29° 11′.

Mar. 13	10	17	15.74	7.0

(*) + 2° 9′.

Mar. 10	10	17	42.72	

O. Arg. S. 10594.

Feb. 28	10	17	51.53	8.0
April 1			51.44	8.0

(*) — 10° 7′.

May 3	10	18	28.81	7.6

35 Ursæ Majoris.

Mar. 17	10	20	38.36	

α Antliæ.

Feb. 28	10	21	12.31	4.5
Mar. 10			12.33	4.5
13			12.44	3.5
20			12.41	4.5
22			12.36	4.0
May 2			12.30	5.0

Weisse (2) 412.

Mar. 27	10	21	42.38	
April 1			42.46	8.2
6			42.24	7.0
8			42.47	7.6
14			42.32	7.0
25			42.29	7.8

Rumker 3209.

April 6	10	22	43.39	
8			43.40	8.0
14			43.40	8.5

Weisse 425.

May 3	10	25	17.74	8.0

(*) + 17° 34′.

1865.	h.	m.	s.	Mag.
April 1	10	25	34.93	10.0
25			34.58	9.5

Lacaille 4324.

May 2	10	25	45.56	5.2

ρ Leonis.

Feb. 28	10	25	57.88	
Mar. 7			57.82	
13			57.86	
20			57.88	
23			57.92	
27			57.95	
April 6			57.91	
17			57.90	
24			58.04	
May 3			57.91	
Nov. 10			57.86	
Dec. 7			57.82	

(*) + 17° 30′.

April 8	10	26	23.45	9.5

Rumker 3238.

Mar. 17	10	26	35.41	9.0

Lacaille 4358.

April 25	10	29	26.53	6.0

(*) — 35° 40′.

April 1	10	29	39.86	9.6

(*) — 35° 40′.

April 1	10	29	47.57	9.2

(*) — 35° 39′.

April 1	10	30	19.96	8.2
17			20.22	

O. Arg. S. 10775.

May 2	10	31	40.99	8.0

50 Leonis.

April 8	10	31	56.04	6.8

Lacaille 4387.

Mar. 11	10	33	22.94	
13			23.08	
April 17			23.07	

O. Arg. N. 11041.

Mar. 17	10	33	45.08	

33 Sextantis.

May 3	10	34	47.43	6.0

(*) — 35° 48′.

Mar. 10	10	34	55.04	8.0

(*) — 35° 46′.

April 1	10	36	2.21	7.8

Lacaille 4412.

April 25	10	36	8.71	
May 2			8.72	7.0

(*) + 5° 0′.

1865.	h.	m.	s.	Mag.
April 6	10	36	40.21	7.5

(*) + 4° 56′.

April 6	10	36	51.60	9.2

(*) — 35° 49′.

April 1	10	37	2.11	
17			2.43	

(*) — 28° 20′.

April 24	10	37	23.41	

O. Arg. S. 10849.

Mar. 20	10	38	14.57	

Weisse 664.

Mar. 22	10	38	15.80	
April 6			15.73	8.3
14			15.84	9.5

(*) — 36° 8′.

April 25	10	38	20.35	7.5

Lacaille 4437.

April 25	10	38	42.07	6.0
May 2			42.10	6.5

(*) — 36° 14′.

April 25	10	39	53.04	7.0
May 2			53.04	7.2

O. Arg. S. 10872.

Mar. 10	10	40	19.66	8.0

O. Arg. S. 10874.

Mar. 10	10	40	20.20	7.6

(*) — 35° 24′.

April 17	10	41	1.23	

(*) — 35° 24′.

April 17	10	41	36.70	

l Leonis.

Mar. 11	10	42	25.46	
22			25.40	
April 1			25.48	
8			25.41	
26			25.40	
28			25.33	
May 6			25.40	

Lacaille 4480.

April 25	10	43	26.05	7.0

Σ Cat. Gen. 1248.

Mar. 20	10	44	0.28	9.5
April 6			0.02	8.5
14			0.19	9.5
24			0.19	

Dorpat 1482, (1st *.)

Mar. 10	10	45	23.25	
April 1			23.46	
6			23.26	8.5
17			23.41	

DORPAT 1482, (2d *.)

1865.	h. m. s.	Mag.
Mar. 10	10 45 23.95	
April 1	23.85	
6	23.82	9.0
17	23.93	

B. A. C. 3726.

April 26	10 45 32.80	

(*) + 8° 9'.

April 1	10 45 43.98	

LACAILLE 4503.

April 25	10 47 9.70	8.0

LACAILLE 4506.

May 2	10 47 40.58	6.8

WEISSE (2) 963.

Mar. 4	10 48 28.53	7.8

54 LEONIS, (1st *.)

Mar. 17	10 48 34.38	6.5
20	34.27	6.0
April 6	34.26	7.0
8	34.28	7.2
14	34.46	7.5
17	34.29	
18	34.22	
24	34.29	
May 1	34.21	7.0
6	34.26	

54 LEONIS, (2d *.)

Mar. 17	10 48 34.88	8.0
20	34.99	8.0
April 6	34.73	8.0
8	34.75	7.6
14	34.87	9.0
17	34.75	8.5
24	34.77	
28	34.73	
May 1	34.81	8.0
6	34.72	

55 LEONIS.

Mar. 11	10 49 1.14	

LALANDE 21014.

Mar. 4	10 49 19.86	
13	19.84	

WEISSE (2) 994.

Mar. 10	10 50 13.97	
20	13.84	
May 2	13.92	7.8

B. A. C. 3755.

April 25	10 50 39.72	5.0

(*) — 27° 45'.

April 1	10 50 50.90	

WEISSE (2) 1017.

April 28	10 51 37.56	8.8

O. ARG. S. 11015.

Mar. 11	10 51 46.10	8.8

(*) — 22° 32'.

1865.	h. m. s.	Mag.
April 1	10 52 16.38	7.8

(*) — 22° 32'.

April 17	10 52 46.83	
27	46.61	

d LEONIS.

Mar. 11	10 53 50.84	
April 26	50.79	
May 6	50.67	

WEISSE 957.

May 6	10 53 54.99	7.8

LACAILLE 4558.

April 25	10 54 53.47	6.7

(*) — 33° 9'.

April 17	10 55 36.16	
24	36.15	
May 1	35.98	8.5

a URSÆ MAJORIS.

April 6	10 55 40.94	

B. A. C. 3778.

Mar. 10	10 56 6.89	
13	6.91	7.0

p^2 LEONIS.

April 8	10 56 57.26	

WEISSE 1025.

April 24	10 57 43.62	

LACAILLE 4576.

April 25	10 58 5.32	

χ LEONIS.

Mar. 11	10 58 18.65	
20	18.56	
April 14	18.59	
27	18.57	
May 1	18.61	
2	18.69	
6	18.58	

O. ARG. S. 11114.

April 26	10 58 58.27	9.0

WEISSE 1044.

April 1	10 59 0.88	7.8

WEISSE 1049.

April 17	10 59 19.09	8.0
28	18.98	9.0

(*) + 11° 0'.

Mar. 4	10 59 26.77	8.5

WEISSE 1075.

Mar. 4	11 0 25.84	7.8
10	25.90	8.0

O. ARG. S. 11147.

April 26	11 0 37.70	8.5
May 1	37.54	8.0

WEISSE 1087.

1865.	h. m. s.	Mag.
Mar. 4	11 1 1.57	9.0

(*) — 40° 11'.

Mar. 18	11 1 44.17	7.8

LACAILLE 4607.

May 2	11 1 44.77	7.0

LACAILLE 4616.

April 26	11 2 33.48	
May 1	33.39	7.5

O. ARG. N. 11496.

April 6	11 2 53.00	8.6
14	53.24	9.0
24	52.90	

O. ARG. N. 11518.

April 6	11 3 59.27	7.6
14	59.29	7.0
17	59.39	
24	59.26	
27	59.33	7.0

LACAILLE 4630.

Mar. 11	11 4 10.95	8.5

O. ARG. S. 11216.

Mar. 11	11 4 56.76	8.8

LACAILLE 4638.

May 1	11 5 37.54	7.5

(* 124) W.

April 27	11 5 44.02	9.5

(*) + 59° 24'.

May 2	11 5 47.86	9.0

WEISSE (2) 98.

Mar. 18	11 6 36.16	9.0

(*) + 68° 18'.

May 6	11 7 0.42	10.5

p^5 LEONIS.

Mar. 11	11 7 6.30	

δ LEONIS.

Mar. 13	11 7 11.57	
18	11.57	
April 8	11.54	
18	11.52	
July 13	11.49	
21	11.59	
22	11.55	
26	11.60	
27	11.52	
28	11.44	
Sept. 25	11.54	
27	11.56	
28	11.49	
29	11.56	
Oct. 5	11.46	
6	11.49	
8	11.52	
9	11.53	
15	11.57	
16	11.58	
20	11.48	
Nov. 10	11.51	
11	11.49	

(*) + 59° 24'.

1865.	h. m. s.	Mag.
April 17	11 7 44.44	8.5

O. ARG. N. 11584.

April 6	11 7 56.92	8.0
26	57.07	

(*) — 68° 18'.

May 6	11 8 1.57	9.8

O. ARG. N. 11590.

Mar. 4	11 8 19.01	7.0
April 24	19.01	
May 1	18.77	7.8
2	19.17	7.8

O. ARG. N. 11619.

May 1	11 9 28.56	9.0

δ CRATERIS.

April 18	11 12 50.57	
24	50.57	
25	50.48	
May 3	50.61	

(*) + 0° 38'.

Mar. 11	11 12 52.70	

LACAILLE 4703.

Mar. 18	11 12 58.96	7.6

O. ARG. N. 11674.

Mar. 6	11 13 15.13	
April 17	15.16	
26	14.94	8.5
27	14.94	

(*) + 9° 56'.

Mar. 4	11 13 58.56	9.0

O ARG. S. 11320.

April 13	11 14 3.45	8.0
May 2	3.21	8.5

LACAILLE 4714.

Mar. 18	11 15 2.80	8.0
May 6	2.76	

RUMKER 3539.

Mar. 4	11 15 6.31	

WEISSE 261.

April 1	11 16 32.14	9.2

LACAILLE 4732.

Mar. 18	11 17 28.97	
April 17	29.00	
May 6	28.92	

WEISSE 284.

Mar. 6	11 18 4.38	
April 6	4.48	

O. ARG. S. 11370.

Mar. 18	11 18 51.38	
May 6	51.60	8.0

83 Leonis, (1st *.)

1865.	h. m. s.	Mag.
April 1	11 20 10.88	7.5
6	10.78	
24	10.75	
25	10.75	7.8

83 Leonis, (2d *.)

April 1	11 20 11.70	8.5
6	11.73	
24	11.80	
25	11.73	8.0

τ Leonis.

Mar. 4	11 21 15.18	
27	15.12	
May 16	15.06	5.0

Weisse 349.

Mar. 4	11 21 16.06	7.6
27	15.88	6.5

(* 123) W.

April 25	11 23 16.27	9.0
27	16.30	9.0
May 1	16.51	9.0
2	16.66	

Weisse 390.

April 17	11 23 18.30	8.0

Weisse 403.

April 13	11 24 13.93	7.7
26	13.83	

Lacaille 4766.

April 28	11 24 24.14	

B. A. C. 3917.

Mar. 6	11 24 42.25	
27	42.19	
April 24	42.27	

Durchmusterung 2799.

May 2	11 25 15.98	9.0
6	16.15	9.5
16	15.99	9.0

Lalande 21911.

April 14	11 25 38.69	8.0

Weisse 429.

Mar. 4	11 25 57.04	
May 1	56.94	9.0
3	56.96	

(*) + 2° 7′.

Mar. 4	11 26 51.46	

O. Arg. N. 11873.

April 25	11 27 36.30	8.5
26	35.97	
27	36.13	

(*) — 35° 25′.

Mar. 18	11 27 57.77	5.8

(*) — 5° 45′.

April 24	11 28 36.93	
28	36.88	9.0

(*) + 1° 30.′

1865.	h. m. s.	Mag.
May 3	11 28 56.98	9.8

O. Arg. N. 11901.

May 2	11 29 46.25	9.0
16	46.01	9.0

(* 115) W.

May 3	11 30 8.15	9.5

υ Leonis.

Mar. 4	11 30 17.64	
12	17.57	
April 6	17.66	
8	17.53	
13	17.54	
14	17.63	
17	17.59	
May 1	17.64	
6	17.61	

(*) + 71° 15′.

May 2	11 30 42.15	9.0
16	41.54	

(*) + 71° 19′.

Mar. 6	11 31 4.69	

Lacaille 4814.

Mar. 18	11 31 8.65	

(*) — 38° 36′.

Mar. 18	11 32 15.96	7.6

Weisse 553.

Mar. 10	11 32 36.84	
April 1	36.72	9.2
17	36.81	9.5

(*) — 26° 1′.

April 18	11 32 48.07	8.5

Lacaille 4830.

Mar. 18	11 32 57.24	7.2
May 1	57.28	

Weisse 562.

May 16	11 33 6.02	8.6

B. A. C. 3962.

Mar. 4	11 33 44.24	6.8
April 1	44.21	6.5
6	44.21	7.0
8	44.17	
17	44.19	
24	44.23	
28	44.17	7.0
May 6	44.06	5.6

Carrington 1741.

April 13	11 33 54.52	

Weisse 592.

Mar. 4	11 34 48.08	9.3
April 6	47.94	9.0
May 6	47.81	9.2

Lacaille 4849.

April 25	11 34 55.34	7.0

Weisse 597.

1865.	h. m. s.	Mag.
April 1	11 35 2.08	9.0
6	2.03	9.0
May 6	1.92	9.0

Weisse 605.

April 1	11 35 28.68	9.2

(*) — 25° 5′.

Mar. 13	11 36 39.67	

Weisse 624.

Mar. 6	11 36 40.42	
10	40.41	
April 8	40.60	8.0
14	40.48	8.0
24	40.60	
26	40.50	
27	40.45	7.7
28	40.43	

O. Arg. N. 12020.

May 2	11 37 14.90	7.5

B. A. C. 3975.

May 16	11 37 16.66	6.7

Weisse 643.

Mar. 27	11 37 51.28	
May 3	51.40	9.2
6	51.24	

Rumker 3727.

Mar. 18	11 38 29.03	5.0

Weisse 673.

May 16	11 39 30.13	8.0

Weisse 680.

April 8	11 39 41.37	7.8

(*) — 25° 11′.

Mar. 11	11 40 32.52	

Lacaille 4886.

Mar. 13	11 40 35.85	

(*) + 15° 20′.

April 1	11 40 45.73	9.0
26	45.78	9.5

O. Arg. S. 4656.

Mar. 11	11 40 46.66	
May 2	46.58	

(*) — 7° 22′.

May 3	11 41 25.49	9.5
6	25.23	

Weisse (2) 812.

April 1	11 42 17.31	8.2
26	17.14	8.2

β Leonis.

Mar. 6	11 42 25.66	
20	25.62	
22	25.66	

β Leonis—Continued.

1865.	h. m. s.	Mag.
April 1	25.75	
26	25.66	
27	25.67	
28	25.54	
June 1	25.68	
July 13	25.71	
26	25.70	
28	25.64	
Aug. 11	25.54	
23	25.57	
26	25.56	
Sept. 28	25.53	
Oct. 5	25.67	
9	25.64	
10	25.68	
15	25.68	
16	25.63	
20	25.59	
Nov. 11	25.65	

β Virginis.

Mar. 11	11 43 55.16	
May 6	55.14	
June 1	55.24	
2	55.23	
28	55.26	

(*) — 36° 57′.

April 24	11 44 3.55	

(*) — 5° 32′.

May 16	11 45 37.06	9.5

Weisse 773.

Mar. 27	11 45 37.10	8.0
April 26	37.14	8.5

(*) — 37° 33′.

April 13	11 46 14.37	8.0
24	14.36	
May 3	14.48	

Weisse 785.

Mar. 11	11 46 14.92	
27	15.04	7.0
April 14	14.97	
17	15.05	
26	14.96	7.9
27	15.02	7.0
28	14.98	7.5
May 2	14.96	7.5
16	14.86	7.3

B. A. C. 4025.

Mar. 4	11 48 11.56	7.5
11	11.33	
20	11.46	

(*) + 11° 5′.

April 1	11 49 1.45	9.0

B. A. C. 4034.

April 24	11 49 19.25	7.5

Radcliffe 2768.

April 14	11 50 10.47	9.0
26	10.49	
27	10.61	9.0
28	10.51	9.0

RADCLIFFE 2769.

1865.	h. m. s.	Mag.
Mar. 20	11 30 23.35	
April 14	23.28	7.0
26	23.45	
28	23.26	8.0

RADCLIFFE 2771.

Mar. 20	11 50 32.91	8.0
April 14	33.06	7.0
26	33.06	
27	33.00	6.7
28	32.90	8.0

(* 113) W.

May 3	11 52 13.15	10.8
16	12.72	10.0

WEISSE 895.

Mar. 13	11 52 54.96	
April 17	55.00	
18	54.90	
24	55.08	

WEISSE 926.

Mar. 4	11 54 34.29	7.4

LACAILLE 4976.

April 1	11 54 46.26	6.8
26	46.42	

(*) — 33° 9′.

May 1	11 55 35.98	8.5

(*) — 24° 2′.

May 16	11 55 53.20	10.0

LACAILLE 4993.

April 24	11 57 0.98	
26	0.90	7.6
28	0.90	

O. ARG. S. 11876.

April 13	11 57 53.81	7.5
27	53.66	8.0

WEISSE 980.

Mar. 4	11 58 16.19	8.8
11	16.31	8.9
27	16.31	8.0
May 3	16.36	9.0

o VIRGINIS.

Mar. 4	11 58 35.24	
8	35.29	
13	35.18	
20	35.19	
27	35.25	
April 1	35.21	
6	35.21	
May 3	35.27	

LACAILLE 5013.

April 18	11 59 16.08	6.0

(*) — 30° 13′.

May 16	11 59 23.81	8.5

(*) — 30° 13′.

May 16	11 59 29.67	8.0

LACAILLE 5016.

April 26	11 59 32.07	
28	32.04	

O. ARG. N. 12337.

May 2	12 0 2.39	8.5

O. ARG. S. 11917.

April 13	12 0 54.07	9.0

O. ARG. S. 11920.

April 27	12 0 56.95	6.0

WEISSE 1030.

May 3	12 1 32.79	8.0

WEISSE 1033.

May 3	12 1 48.34	9.2

(*) — 32° 16′.

May 16	12 2 22.96	8.0

O. ARG. S. 11944.

April 17	12 2 40.08	8.5

DORPAT 1604, (1st *.)

Mar. 13	12 2 45.20	7.0
April 1	45.07	7.6
17	45.25	
28	45.24	8.0

DORPAT 1604, (2d *.)

Mar. 13	12 2 48.50	9.0
April 1	48.35	9.2
28	48.39	

10 VIRGINIS.

May 6	12 3 1.58	

e CORVI.

April 24	12 3 26.53	
26	26.54	
May 2	26.40	

WEISSE 34.

April 13	12 4 23.55	7.8
27	23.57	8.0

O. ARG. S. 11982.

April 18	12 5 16.38	6.0

LACAILLE 5065.

April 1	12 6 39.59	
28	39.83	

O. ARG. S. 12037.

April 26	12 9 18.13	9.2
28	18.51	9.0
May 16	18.36	9.5

13 VIRGINIS.

Mar. 11	12 12 0.34	5.8
13	0.44	6.0
April 14	0.48	7.0

WEISSE 177.

April 1	12 12 34.10	9.6

(*) — 25° 16′.

April 18	12 12 41.38	8.0
26	41.36	8.0

(*) — 27° 45′.

April 26	12 13 13.87	

η VIRGINIS.

Mar. 13	12 13 15.37	
20	15.38	
April 1	15.35	
8	15.29	
14	15.30	
17	15.29	
28	15.34	
May 16	15.30	
17	15.24	
June 1	15.32	
2	15.34	
July 26	15.32	

O. ARG. S. 12116.

April 27	12 15 40.99	6.0

DORPAT 1636, (1st *.)

April 14	12 15 54.97	10.0
26	55.02	10.5
28	54.99	9.5

17 VIRGINIS.

Mar. 13	12 15 55.63	
April 14	55.48	8.0
18	55.55	6.8
26	55.51	6.8
28	55.50	7.8

O. ARG. S. 12124.

April 1	12 16 35.35	

LACAILLE 5131.

May 16	12 16 59.24	7.0

WEISSE 311.

May 16	12 20 17.43	8.8

LACAILLE 5159.

April 18	12 20 37.61	6.5

O. ARG. S. 12173.

May 17	12 20 39.03	

(*) — 37° 12′.

May 1	12 21 59.06	9.0

B. A. C. 4214.

April 26	12 23 29.36	5.6

O. ARG. S. 12219.

April 18	12 24 45.48	6.5
May 1	45.50	8.0
16	45.47	6.5

O. ARG. S. 12232.

Feb. 13	12 25 57.97	
April 24	58.04	
26	58.11	8.2
May 17	58.00	6.8

O. ARG. S. 12243.

May 13	12 26 53.31	8.0

q VIRGINIS.

Feb. 13	12 27 4.17	

(*) — 29° 22′.

May 17	12 27 12.83	9.5

β CORVI.

Mar. 13	12 27 33.74	
April 18	33.75	
27	33.72	
29	33.68	
May 1	33.68	
13	33.78	
28	33.77	

κ DRACONIS.

April 14	12 27 55.24	

O. ARG. S. 12254.

May 13	12 27 59.34	8.3

O. ARG. S. 12258.

April 24	12 28 10.14	

WEISSE 461.

Mar. 22	12 28 33.62	8.2

f VIRGINIS.

Feb. 13	12 30 5.67	

WEISSE 497.

June 1	12 30 49.01	8.0

B. A. C. 4255.

April 26	12 32 2.36	

B. A. C. 4256.

May 17	12 32 8.61	5.8

(*) + 13° 34′.

Mar. 22	12 32 15.98	9.6

χ VIRGINIS.

June 3	12 32 32.28	

LACAILLE 5234.

April 18	12 33 15.46	7.5
May 1	15.40	
13	15.66	7.0

O. ARG. S. 12342.

April 24	12 34 35.12	
26	35.07	
May 15	35.22	7.5

γ^{1} VIRGINIS.

April 29	12 35 4.55	

γ^{11} VIRGINIS.

April 29	12 35 4.63	

(*) — 35° 16′.

May 1	12 36 12.31	8.5
7	12.46	
23	12.37	8.0

(*) — 40° 30′.

1865.	h. m. s.	Mag.
April 18	12 36 25.61	8.0
26	25.75	7.8

WEISSE 632.

April 24	12 38 23.72	
26	23.75	
May 1	23.58	
13	23.66	8.0

WEISSE 646.

April 26	12 38 54.91	8.2
May 13	54.95	8.0

(*) + 12° 9′.

Mar. 13	12 39 2.71	

WEISSE 652.

Mar. 22	12 39 24.14	8.0
April 26	24.17	7.8
May 1	24.18	9.0
13	24.18	8.2

(*) + 14° 28′.

April 13	12 39 33.31	10.0

LALANDE 23832.

Mar. 22	12 40 33.18	
April 13	33.06	8.5
24	33.13	
May 1	33.20	8.0
3	33.23	7.8
13	33.29	7.0
15	33.07	8.0

O. ARG. N. 12996.

April 14	12 41 14.70	
29	13.89	
May 17	14.15	
23	14.10	9.2

28 COMÆ.

April 13	12 41 43.62	7.2
28	43.76	
May 3	43.67	6.0
13	43.69	6.2

WEISSE 722.

May 15	12 43 16.87	9.3

(*) — 37° 11′.

April 18	12 43 29.55	8.0

WEISSE 728.

April 26	12 43 41.04	
May 15	41.13	7.5

WEISSE 743.

April 17	12 44 40.82	

(*) — 25° 7′.

May 1	12 44 41.42	9.5

(*) — 38° 39′.

May 17	12 45 54.41	9.0

38 VIRGINIS.

April 29	12 46 31.83	

LACAILLE 5326.

1865.	h. m. s.	Mag.
April 13	12 48 30.54	7.0
24	30.51	
May 1	30.31	
15	30.52	

WEISSE 834.

April 18	12 49 36.79	7.5
26	36.70	
May 1	36.76	

B. A. C. 4345.

April 14	12 49 55.55	
17	55.47	

a CANUM VENATICORUM.

April 14	12 49 56.72	
17	56.68	
25	56.58	
May 29	56.60	
Nov. 9	56.55	
10	56.53	
12	56.55	
14	56.64	

O. ARG. S. 12538.

April 29	12 50 14.89	8.0

LACAILLE 5340.

May 15	12 50 32.28	

LACAILLE 5342.

May 23	12 50 51.21	

WEISSE 857.

April 13	12 51 6.86	3.2

LACAILLE 5346.

May 23	12 51 40.48	
June 3	40.51	

(*) — 39° 17′.

May 17	12 51 43.24	8.5

O. ARG. S. 12564.

April 29	12 52 30.05	8.0

k VIRGINIS.

Mar. 13	12 52 57.69	
May 7	57.79	

(*) — 39° 36′.

May 3	12 53 10.46	
13	10.44	

46 VIRGINIS.

April 26	12 53 54.41	

O. ARG. S. 12588.

May 2	12 54 42.95	8.0

(*) — 16° 55′.

April 25	12 57 8.71	9.0
29	8.88	
May 3	8.96	8.8

48 VIRGINIS.

June 3	12 57 12.61	

(*) — 37° 3′.

1865.	h. m. s.	Mag.
May 1	12 57 18.95	

(*) — 14° 54′.

May 13	12 57 19.96	9.5

O. ARG. S. 12620.

May 2	12 57 20.12	8.5

O. ARG. S. 12626.

May 23	12 58 6.96	9.2

O. ARG. S. 12629.

April 25	12 58 8.47	8.5
May 3	8.65	8.2

O. ARG. S. 12630.

May 13	12 58 24.94	9.2
24	25.05	9.5

O. ARG. S. 12671.

April 25	13 1 40.28	7.5
May 13	40.31	7.8
29	40.41	

WEISSE 16.

May 24	13 3 13.14	

θ VIRGINIS.

Jan. 16	13 3 13.30	
Mar. 4	13.22	
22	13.25	
April 13	13.30	
17	13.30	
18	13.24	
28	13.24	
May 1	13.26	
2	13.23	
3	13.20	
12	13.19	
15	13.28	
24	13.27	
June 1	13.21	
3	13.21	

LACAILLE 5426.

April 24	13 4 15.99	5.5
25	15.81	5.5

53 VIRGINIS.

May 13	13 5 8.59	5.0
30	8.59	
June 1	8.50	5.5

(*) — 2° 45′.

May 3	13 6 24.63	9.0

(*) — 35° 12′.

April 25	13 6 26.40	8.0

WEISSE 81.

April 13	13 6 39.11	7.8

O. ARG. S. 12733.

May 17	13 7 54.40	

LALANDE 24598.

May 3	13 8 51.07	9.0
13	51.12	9.5

LALANDE 24610.

1865.	h. m. s.	Mag.
May 3	13 9 19.29	7.8
13	19.30	8.0
June 1	19.26	8.0

LALANDE 24624.

May 3	13 9 55.79	7.6
13	55.84	7.2

LACAILLE 5478.

May 17	13 11 14.91	7.0

O. ARG. S. 12808.

May 1	13 13 41.54	7.5
15	41.68	7.5
29	41.61	

LACAILLE 5502.

May 17	13 14 31.85	
June 3	32.00	

LACAILLE 5514.

April 28	13 15 51.09	8.5
May 1	51.11	7.5
2	51.05	5.5
15	51.22	7.0
29	51.19	

(*) — 26° 26′.

May 3	13 17 47.23	9.2

α VIRGINIS.

Jan. 18	13 18 20.86	
25	20.90	
Mar. 22	20.80	
April 1	20.80	
26	20.80	
29	20.76	
July 27	20.86	
Aug. 8	20.91	
19	20.95	
21	20.79	
24	20.93	
25	20.94	
26	20.77	
27	20.87	
Sept. 12	20.83	
15	20.88	
16	20.87	
19	20.81	
21	20.81	
23	20.77	
27	20.85	
29	20.85	
30	20.83	
Oct. 31	20.89	
Nov. 6	20.83	
7	20.83	
8	20.75	
9	20.83	
10	20.77	
12	20.94	
13	20.81	
14	20.77	
15	20.78	
17	20.79	
Dec. 9	20.90	

(*) — 34° 56′.

May 15	13 19 38.59	8.5

WEISSE 303.

April 24	13 19 56.91	10.0
May 2	56.82	9.2

WEISSE 304.

1865.		h. m. s.	Mag.
June	1	13 20 0.31	8.5

(*) — 32° 46′.

May	13	13 21 14.82	
	26	15.01	

WEISSE 354.

April	13	13 22 56.04	9.0
	24	56.27	
	28	56.12	9.0
May	1	56.21	
June	1	56.16	

(*) — 31° 40′.

May	2	13 22 57.33	7.2

LACAILLE 5569.

May	17	13 23 30.83	4.5
	18	30.68	
June	3	30.91	5.6

(*) — 34° 28′.

May	3	13 24 17.88	
	13	17.77	9.4
	15	18.06	

LACAILLE 5573.

April	25	13 24 20.13	6.0
June	9	19.99	

β VIRGINIS.

June	4	13 25 12.54	

(*) — 36° 51′.

May	1	13 27 34.15	8.0

ζ VIRGINIS.

Jan.	25	13 28 4.10	
April	1	4.13	
	24	4.19	
	25	4.24	
	26	4.25	
	29	4.33	
May	23	4.25	
	24	4.21	
	30	4.17	
June	3	4.26	
	9	4.19	
	23	4.20	
	27	4.18	
	28	4.21	

(*) — 26° 34′.

May	2	13 28 23.99	8.2

(*) — 31° 40′.

April	13	13 28 24.23	7.5
	28	24.13	8.0
May	15	24.33	
June	2	24.22	

(*) — 22° 55′.

May	1	13 30 1.73	7.8
	29	1.79	
June	2	1.89	
	9	1.79	

O. ARG. S. 13003.

May	17	13 31 4.08	
June	1	4.31	

(*) — 38° 19′.

1865.		h. m. s.	Mag.
May	24	13 31 4.80	

O. ARG. S. 13005.

April	28	13 31 5.91	9.5

(*) — 37° 41′.

May	2	13 31 29.96	8.5

(*) — 30° 11′.

May	1	13 32 3.73	
	15	3.71	

(*) + 77° 0′.

April	25	13 32 11.95	9.0

(*) — 26° 27′.

April	13	13 32 37.73	9.0

O. ARG. N. 13847.

April	25	13 32 59.89	8.0

(*) — 38° 0′.

May	24	13 34 6.88	

m VIRGINIS.

Jan.	18	13 34 47.46	

LACAILLE 5649, (1st *.)

April	28	13 34 53.11	
	29	53.19	
May	1	53.10	

LACAILLE 5649, (2d *.)

April	29	13 34 53.22	
	30	53.12	
May	12	53.18	

(*) — 37° 42′.

May	2	13 35 24.17	

O. ARG. S. 13085.

April	13	13 36 37.20	8.2
May	29	37.57	
June	12	37.24	

(*) — 34° 28′.

April	17	13 38 39.74	8.5

86 VIRGINIS.

June	3	13 39 0.89	

(*) — 37° 30′.

May	29	13 40 36.03	

(*) — 29° 57′.

May	15	13 40 59 43	

WEISSE 694.

May	3	13 41 13.19	7.8

WEISSE 708.

April	29	13 41 59.57	
May	3	59.45	8.2

η URSÆ MAJORIS.

1865.		h. m. s.	Mag.
May	6	13 42 24.93	

89 VIRGINIS.

Jan.	19	13 42 48.71	
June	4	48.76	

(*) — 37° 27′.

May	2	13 43 9.34	7.5
	13	9.49	6.5
	15	9.76	
	16	9.28	7.5

(*) — 37° 55′.

May	1	13 44 36.19	
	17	36.17	

(*) — 38° 23′.

May	2	13 45 44.62	6.7

WEISSE (2) 978.

May	3	13 46 5.47	9.0

LACAILLE 5729.

May	23	13 46 19.48	6.0

O. ARG. S. 13215.

April	28	13 46 22.58	
May	1	22.68	7.0
	29	22.67	
June	12	22.63	

WEISSE (2) 994.

May	3	13 46 45.67	8.2

η BOOTIS.

Jan.	19	13 48 29.72	
	25	29.77	
April	13	29.66	
	26	29.72	
	27	29.71	
	28	29.66	
	29	29.68	
May	1	29.78	
	15	29.68	
	29	29.71	
June	7	29.73	
Aug.	25	29.69	
	27	29.70	
	31	29.67	
Sept.	14	29.69	
	20	29.67	
	30	29.73	
Nov.	12	29.68	
	26	29.71	

(*) — 37° 59′.

May	17	13 48 31.09	
	23	31.10	8.0
June	3	31.27	

LACAILLE 5758.

April	25	13 48 58.97	8.5
May	2	59.12	6.0
	16	59.10	7.0

RADCLIFFE 3117.

June	1	13 50 30.77	7.0

LACAILLE 5773.

June	1	13 50 39.08	7.5

(*) — 36° 50′.

1865.		h. m. s.	Mag.
April	29	13 51 25.59	
May	3	25.73	
	15	25.72	
June	7	25.51	

(*) — 36° 43′.

May	15	13 51 25.86	

(*) — 36° 50′.

April	25	13 52 38.30	
May	2	38.38	8.0

BRISBANE 4727.

April	25	13 53 23.33	
	29	23.74	7.5

(*) — 33° 2′.

May	15	13 53 23.54	

LACAILLE 5783.

May	23	13 53 28.50	6.0

(*) — 36° 48′.

June	2	13 54 22.73	

WEISSE 931.

May	13	13 54 56.93	
	17	56.95	9.3

τ VIRGINIS.

April	27	13 55 1.91	
May	3	1.96	
	13	1.90	
	16	1.86	
	17	1.88	
	24	1.93	
	29	1.95	
	30	1.97	
June	1	1.94	
	7	1.96	
	9	1.92	
July	2	1.94	
Aug.	31	1.85	

LACAILLE 5798, (1st *.)

May	23	13 56 20.10	8.0

LACAILLE 5798, (2d *.)

May	23	13 56 22.26	7.0

O. ARG. S. 13349.

April	18	13 56 55.50	8.0
June	2	55.57	
	12	55.58	

LACAILLE 5812.

May	2	13 58 9.92	7.5

(*) — 33° 2′.

June	3	13 58 10.54	
	7	10.55	
	12	10.55	

(*) — 14° 48′.

May	16	13 59 26.58	9.0

LACAILLE 5822.

May	17	13 59 25.91	6.6

(*) — 14° 50′.

1865.	h. m. s.	Mag.
May 16	13 59 35.97	9.0

O. Arg. S. 13387.

May 17	13 59 36.74	6.7
June 12	36.87	

(*) — 26° 35′.

May 17	14 0 30.29	8.5

(*) — 26° 2′.

April 29	14 1 8.91	8.0

(*) — 26° 32′.

April 18	14 1 37.82	8.2
June 3	37.89	
7	37.81	

(*) — 26° 32′.

April 18	14 1 41.72	8.5
June 3	41.82	
7	41.61	

(*) — 26° 4′.

May 15	14 3 1.24	

Lacaille 5839.

May 2	14 3 15.83	7.0
June 1	15.62	8.5

(*) — 24° 29′.

April 18	14 3 32.59	8.0

O. Arg. S. 13438.

April 29	14 3 56.55	8.0

50 Hydræ.

May 30	14 5 19.39	5.0

(*) — 32° 52′.

May 15	14 5 33.23	8.0
June 3	33.25	
7	33.01	9.5

(*) — 32° 53′.

May 13	14 5 36.96	9.2
15	37.07	9.0
June 3	36.92	
7	36.92	9.2

(*) — 32° 53′.

May 2	14 5 43.53	8.5
13	43.67	8.5
15	43.76	9.0
June 3	43.69	
7	43.79	9.3

κ Virginis

Jan. 19	14 5 57.80	
July 2	57.79	

(*) — 36° 57′.

April 18	14 7 57.08	9.0

Lacaille 5872.

May 17	14 8 36.94	4.8
23	37.04	6.0
June 1	36.95	
7	37.11	
23	37.02	5.0

Lacaille 5877.

1865.	h. m. s.	Mag.
May 13	14 8 57.44	8.2

α Bootis.

Jan. 19	14 9 43.91	
25	44.04	
April 29	43.94	
May 2	43.97	
June 28	43.98	
July 2	43.94	
Aug. 21	43.95	
24	44.02	
25	43.93	
27	43.95	
28	43.96	
30	43.96	
Sept. 5	43.96	
6	43.90	
15	43.96	
16	43.93	
19	43.96	
21	43.92	
23	43.87	
26	43.92	
27	43.99	
28	43.89	
29	43.98	
30	43.93	
Oct. 1	44.00	
6	43.98	
9	43.87	
10	43.95	
11	43.95	
16	43.94	
20	44.02	
31	43.83	
Nov. 5	43.85	
6	43.87	
8	43.94	
9	43.93	
10	43.98	
12	43.98	
13	43.92	
14	43.89	
15	44.03	
17	43.96	
24	43.96	
26	44.01	
29	43.96	

(*) — 4° 31′.

June 3	14 10 18.69	

Lacaille 5883.

April 18	14 10 42.71	6.0
May 17	42.55	5.0
June 1	42.56	
2	42.74	
7	42.63	

(*) — 36° 38′.

May 15	14 10 58.45	

Weisse 171.

June 3	14 11 3.88	

Weisse 174.

June 3	14 11 9.83	

λ Virginis.

June 3	14 12 4.58	
July 2	4.68	

Weisse 199, (1st *.)

April 25	14 12 30.47	8.0
May 23	30.45	
30	30.59	

Weisse 199, (2d *.)

1865.	h. m. s.	Mag.
April 25	14 12 30.68	
May 13	30.61	7.0
23	30.70	

O. Arg. S. 13541.

April 18	14 12 37.85	7.0

(*) — 38° 4′.

May 17	14 13 51.07	7.0

Lacaille 5910.

April 18	14 14 30.38	6.5

(*) — 26° 37′.

June 7	14 16 16.79	8.2

(*) — 27° 30′.

May 15	14 16 18.97	8.5
June 2	19.05	
3	19.07	8.5

2 Libræ.

Jan. 19	14 16 26.13	
July 2	26.04	

Lacaille 5923.

April 18	14 16 30.91	6.8

Weisse 293.

May 13	14 17 32.35	
17	32.23	6.7
23	32.25	7.3
30	32.30	
June 23	32.45	

(*) — 27° 30′.

June 3	14 17 40.50	7.4

(*) — 26° 6′.

May 15	14 18 17.00	9.0

B. A. C. 4776.

May 15	14 18 17.91	7.0

Weisse 316.

May 13	14 18 20.35	
17	20.14	7.8
23	20.23	8.3
June 23	20.22	

O. Arg. S. 13611.

April 18	14 18 33.26	7.0
June 7	33.23	8.0

Schwerd 835.

June 1	14 18 44.06	

θ Bootis.

May 29	14 20 46.14	

(*) — 26° 13′.

June 23	14 20 49.09	

Lacaille 5956.

April 18	14 22 1.98	6.0

Lacaille 5963.

1865.	h. m. s.	Mag.
May 17	14 23 8.03	

O. Arg. S. 13679.

May 15	14 23 13.43	7.5
June 7	13.38	

O. Arg. S. 13694.

May 13	14 24 20.55	
June 23	20.41	

O. Arg. S. 13697.

May 23	14 24 32.52	7.8

Lacaille 5983.

May 15	14 25 27.97	5.0
June 1	27.71	
7	27.67	

ρ Bootis.

April 18	14 26 13.57	
May 30	13.60	
June 28	13.71	

(*) — 30° 6′.

June 7	14 26 43.26	9.5

O. Arg. S. 13747.

May 23	14 28 54.23	7.8
June 3	54.21	

(*) — 36° 56′.

May 17	14 29 7.99	
June 23	8.09	

(*) — 27° 39′.

June 23	14 29 52.57	

O. Arg. S. 13813.

May 23	14 32 52.24	7.2

O. Arg. S. 13814.

May 23	14 32 57.10	8.5

Lacaille 6047.

May 15	14 33 22.68	
17	22.55	6.0
June 22	22.58	

(*) — 32° 10′.

May 13	14 34 9.64	7.3
June 7	9.69	
23	9.75	

Lacaille 6054.

May 13	14 34 24.44	6.0
June 7	24.42	
23	24.58	

Lacaille 6060.

April 25	14 34 48.68	7.5

Schwerd 853.

May 23	14 37 17.95	6.5
June 1	19.36	7.0

(*) — 37° 23′.

1865.	h. m. s.	Mag.
May 15 . .	14 37 25.27	

54 HYDRÆ, (1st *.)

May 13 . .	14 38 28.97	5.4
24 . .	28.76	6.8
June 7 . .	28.73	7.0
28 . .	28.98	

54 HYDRÆ, (2d *.)

May 13 . .	14 38 29.21	7.5
24 . .	29.28	8.2
June 7 . .	29.41	7.5
28 . .	29.48	

5 LIBRÆ.

July 3 . .	14 38 47.87	

e BOOTIS.

Jan. 19 . .	14 39 18.59	
April 25 . .	18.66	
May 15 . .	18.72	
June 2 . .	18.64	
22 . .	18.54	
23 . .	18.62	
Aug. 26 . .	18.60	
27 . .	18.51	
28 . .	18.56	
Sept. 15 . .	18.53	
16 . .	18.58	
19 . .	18.61	
20 . .	18.62	
23 . .	18.61	
29 . .	18.69	
Oct. 9 . .	18.60	
11 . .	18.61	
Nov. 23 . .	18.49	
24 . .	18.48	

LALANDE F. 2537.

June 1 . .	14 42 56.86	8.0

O. ARG. S. 13978.

June 2 . .	14 43 13.37	
22 . .	13.30	8.0
23 . .	13.38	
28 . .	13.41	7.5

8 LIBRÆ.

May 13 . .	14 43 29.91	
17 . .	29.95	
24 . .	30.10	
June 7 . .	30.04	
July 2 . .	29.96	

α^2 LIBRÆ.

Jan. 18 . .	14 43 41.45	
19 . .	41.34	
25 . .	41.35	
May 13 . .	41.39	
17 . .	41.27	
23 . .	41.40	
June 7 .	41.38	
July 2 . .	41.38	
3 . .	41.37	
Aug. 26 . .	41.44	
27 . .	41.45	
Sept. 19 . .	41.38	
23 . .	41.43	

LACAILLE 6134.

June 2 . .	14 46 4.43	7.5
7 . .	4.51	
22 . .	4.43	
23 . .	4.57	7.5
27 . .	4.57	

B. A. C. 4911.

June 7 . .	14 46 38.95	7.0
22 . .	38.82	6.0
23 . .	38.97	
28 . .	38.98	6.8

O. ARG. S. 14042.

June 23 . .	14 46 52.54	

O. ARG. S. 14080.

May 23 . .	14 49 19.98	6.0

O. ARG. S. 14094.

May 12 . .	14 49 (59.05)	
June 22 . .	58.64	7.5

β URSÆ MINORIS.

June 1 . .	14 51 6.40	

(*) — 27° 47′.

May 15 . .	14 51 17.58	

(*) + 43° 58′.

June 28 . .	14 51 23.15	7.9

WEISSE (2) 1130, (1st *.)

June 7 . .	14 52 30.53	

WEISSE (2) 1130, (2d *.)

June 7 . .	14 52 31.27	

WEISSE (2) 1139.

June 7 . .	14 52 45.46	

WEISSE (2) 1146.

June 7 . .	14 53 6.48	

WEISSE (2) 1154.

June 28 . .	14 53 19.83	7.8

WEISSE (2) 1162.

June 28 . .	14 53 35.83	8.6

(*) + 10° 28′.

June 3 . .	14 56 9.53	9.5

(*) + 10° 38′.

June 23 . .	14 56 36.18	

β BOOTIS.

Jan. 25 . .	14 57 2.89	
May 2 . .	3.00	

(*) + 10° 28′.

May 23 . .	14 57 40.46	9.5
June 7 . .	40.44	

(*) — 26° 19′.

June 28 . .	14 57 41.95	

O. ARG. S. 14246.

June 3 . .	14 58 57.22	7.5
22 . .	57.19	5.0
23 . .	56.98	

O. ARG. S. 14277.

June 28 . .	15 0 41.01	8.2
July 3 . .	40.99	

WEISSE 1144.

May 23 . .	15 1 35.10	9.0

WEISSE 1149.

May 23 . .	15 1 50.91	7.5
June 1 . .	50.93	8.0

O. ARG. S. 14324.

June 22 . .	15 2 16.50	5.5
23 . .	16.53	

WEISSE 3.

May 23 . .	15 2 33.56	8.5
June 28 . .	33.63	8.0

WEISSE 10.

June 8 . .	15 2 45.16	7.0

ι^1 LIBRÆ.

April 13 . .	15 4 48.88	
July 3 . .	48.87	

DORPAT 1914, (1st *.)

June 28 . .	15 4 53.09	9.5

DORPAT 1914, (2d *.)

June 1 . .	15 4 53.77	8.5
2 . .	53.87	
8 . .	53.73	8.3
28 . .	53.91	8.2

O. ARG. S. 14349.

May 15 . .	15 5 4.16	8.0

B. A. C. 5006.

May 15 . .	15 6 11.46	

LACAILLE 6289.

June 23 . .	15 8 6.84	
July 3 . .	6.72	

O. ARG. S. 14402.

May 15 . .	15 8 18.27	

β LIBRÆ.

Jan. 18 . .	15 10 0.74	
25 . .	0.89	
April 13 . .	0.81	
May 23 . .	0.81	
June 1 . .	0.84	
2 . .	0.78	
3 . .	0.84	
8 . .	0.83	
22 . .	0.83	
24 . .	0.88	
July 3 . .	0.83	
Nov. 30 . .	0.82	

O. ARG. S. 14428.

June 23 . .	15 10 22.64	
28 . .	22.58	6.7

O. ARG. S. 14437.

May 15 . .	15 10 51.42	
June 28 . .	51.40	7.2

B. A. C. 5039.

June 23 . .	15 11 32.07	

B. A. C. 5041.

June 23 . .	15 12 2.72	

(*) — 24° 29′.

June 28 . .	15 12 34.21	

LACAILLE 6344.

April 13 . .	15 14 20.10	7.3
June 8 . .	20.04	7.0
24 . .	20.32	

O. ARG. S. 14513.

May 15 . .	15 16 36.78	

(* 117) W.

May 23 . .	15 17 11.96	8.3
June 28 . .	12.06	7.0

LACAILLE 6368.

April 13 . .	15 17 36.44	

LACAILLE 6372.

June 8 . .	15 17 46.05	6.5

O. ARG. S. 14544.

June 24 . .	15 18 34.39	
July 3 . .	34.30	

LACAILLE 6376.

June 8 . .	15 18 59.02	6.0

μ BOOTIS.

May 15 . .	15 19 34.82	
June 8 . .	34.86	

ζ^1 LIBRÆ.

April 13 . .	15 20 55.51	

O. ARG. N. 15370.

May 23 . .	15 21 38.56	

(*) — 23° 12′.

May 15 . .	15 23 28.82	

B. A. C. 5105.

June 22 . .	15 24 35.40	
28 . .	35.49	

WEISSE 444.

May 23 . .	15 25 15.45	8.0
June 8 . .	15.48	8.0

LACAILLE 6415.

April 13 . .	15 25 27.70	6.0

γ LIBRÆ.

June 7 . .	15 28 15.35	

α Coronæ Borealis.

1865.	h. m. s.	Mag.
May 23	15 29 11.07	
July 4	11.07	
Aug. 28	11.05	
Sept. 22	11.01	
29	11.10	
30	11.05	
Oct. 2	11.06	
7	11.08	
8	11.05	
17	11.00	
19	11.03	
20	11.00	
21	11.00	
26	11.02	
31	11.07	
Nov. 5	11.15	
15	11.16	
26	11.03	
28	10.97	
Dec. 7	11.01	
21	11.03	

Lacaille 6447.

April 13	15 30 0.35	7.0

Lacaille 6448.

April 13	15 30 9.48	6.9
(*) — 35° 58′.		
June 3	15 31 29.69	9.0
(*) — 35° 42′.		
June 23	15 31 37.36	
July 3	37.38	

O. Arg. S. 14736.

June 7	15 31 55.08	7.8
24	55.28	7.8

Lacaille 6471.

June 8	15 32 29.76	6.0

42 Libræ.

June 7	15 32 35.96	5.6
24	36.10	5.6
28	36.07	5.0
(*) — 35° 19′.		
June 23	15 34 9.51	
July 3	9.52	

B. A. C. 5171.

June 3	15 34 11.57	7.4

Lacaille 6499.

April 13	15 35 57.66	6.7
(*) — 30° 14′.		
June 22	15 36 3.95	
July 3	3.87	
(*) — 30° 14′.		
June 23	15 36 43.35	
24	43.39	
July 3	43.24	
(*) — 15° 58′.		
June [illegible]	37 8.97	8.5

α Serpentis.

1865.	h. m. s.	Mag.
June 7	15 37 51.90	
June 23	51.98	
July 4	51.95	
Sept. 22	51.88	
26	51.86	
Oct. 5	51.94	
7	51.89	
11	51.84	
16	51.97	
19	51.94	
20	51.92	
Nov. 5	51.94	

Lacaille 6517, (1st *.)

June 8	15 38 43.41	6.0
24	43.54	7.0

Lacaille 6517, (2d *.)

June 8	15 38 44.99	6.5
24	45.12	7.5

O. Arg. S. 14861.

June 3	15 39 13.42	9.6

B. A. C. 5211.

June 13	15 40 6.93	7.8

B. A. C. 5220.

July 3	15 40 44.50	

δ Scorpii.

June 8	15 43 9.78	5.0
22	9.82	5.5

ε Serpentis.

May 12	15 44 20.23	
June 3	20.29	
23	20.28	
28	20.28	
July 3	20.20	

A Scorpii, (1st *.)

June 8	15 45 48.52	8.0

A Scorpii, (2d *.)

June 8	15 45 48.55	6.5
22	48.62	5.2
24	48.71	5.6

θ Libræ.

July 4	15 46 25.46	

3 Scorpii.

June 24	15 46 51.47	6.2
(*) — 24° 32′.		
June 28	15 48 31.97	8.9

O. Arg. S. 15061.

June 24	15 50 17.59	8.6

O. Arg. S. 15067.

July 6	15 50 33.71	

ε Coronæ Borealis.

Mar. 17	15 52 12.47	

δ Scorpii.

1865.	h. m. s.	Mag
April 13	15 52 39.05	
July 4	38.99	

Lacaille 6641.

June 22	15 53 34.44	6.0

O. Arg. S. 15134.

June 24	15 54 36.45	9.2
28	36.37	7.6
July 6	36.36	7.5

B. A. C. 5314.

June 8	15 55 29.43	5.5
July 4	29.54	6.0

51 Libræ, (1st *.)

Mar. 17	15 57 13.25	
June 24	13.39	5.4
28	13.31	5.0

51 Libræ, (2d *.)

June 24	15 57 13.88	8.0
28	13.89	8.0

Weisse 1080.

June 8	15 57 52.31	

β Scorpii.

April 13	15 57 52.91	
June 7	52.77	
July 4	52.80	
Aug. 28	52.86	
Sept. 29	52.89	

O. Arg. S. 15225.

July 6	15 59 9.42	8.5

O. Arg. S. 15227.

July 6	15 59 11.17	7.3

O. Arg. S. 15235.

June 24	15 59 37.49	9.0

O. Arg. S. 15240.

April 13	15 59 46.98	8.5

O. Arg. S. 15242.

April 13	15 59 48.98	5.5

O. Arg. S. 15295.

June 28	16 1 57.01	8.8

O. Arg. S. 15300.

June 28	16 1 58.58	9.0

B. A. C. 5365.

June 26	16 2 21.18	

B. A. C. 5378.

June 24	16 3 36.16	
(*) — 26° 44′.		
June 24	16 3 38.93	

O. Arg. S. 15342.

1865.	h. m. s.	Mag.
June 8	16 3 46.88	8.5
July 6	46.99	8.0

ν Scorpii.

Mar. 17	16 4 26.49	
July 4	26.55	
(*) — 17° 50′.		
June 28	16 4 32.42	7.5

O. Arg. S. 15398.

June 8	16 5 57.44	8.2
28	57.59	7.5
July 6	57.57	7.8

δ Ophiuchi.

June 28	16 7 32.14	
July 6	32.11	
Oct. 10	32.04	

19 Scorpii.

June 23	16 12 48.81	
July 6	49.03	5.7

σ Scorpii.

June 7	16 13 17.35	

ψ Ophiuchi.

Mar. 17	16 16 29.93	
June 7	29.84	

O. Arg. S. 15595.

June 8	16 16 39.86	8.5
28	40.04	
July 6	39.98	8.0

B. A. C. 5474.

June 23	16 17 31.15	
26	31.31	

O. Arg. S. 15632.

June 23	16 19 9.87	

O. Arg. S. 15641.

June 23	16 19 15.29	
26	15.47	

B. A. C. 5487.

June 23	16 19 21.85	

χ Ophiuchi.

Mar. 18	16 19 29.41	

α Scorpii.

Feb. 19	16 21 26.39	
June 8	26.31	
July 6	26.48	
Sept. 26	26.28	
29	26.32	
Oct. 9	26.24	
Nov. 6	26.37	
12	26.43	
Dec. 21	26.38	

η Draconis.

Mar. 17	16 22 14.16	

O. ARG. S. 15698.

1865.	h. m. s.	Mag.
June 8	16 23 51.14	9.0
23	51.06	
26	51.16	
28	51.15	

ω OPHIUCHI.

Mar. 18	16 24 26.05	
June 7	26.09	
July 4	25.88	

WEISSE 462.

Mar. 17	16 25 46.69	7.5

O. ARG. S. 15726.

June 8	16 26 2.99	
23	2.96	
26	2.91	
28	3.00	8.4

LACAILLE 6888.

July 6	16 27 33.34	6.0

WEISSE 539.

June 26	16 29 27.51	
28	27.61	6.8

WEISSE 544.

June 26	16 29 51.62	

ζ OPHIUCHI.

Feb. 19	16 30 0.09	
Mar. 18	0.00	
June 23	0.05	

WEISSE 562.

June 8	16 30 34.61	8.7
July 6	34.62	9.0

WEISSE 575.

July 6	16 31 8.64	8.0

WEISSE 619.

June 7	16 33 5.37	
8	5.44	7.0
23	5.56	
26	5.54	

WEISSE 637.

July 6	16 34 3.23	

O. ARG. S. 15868.

June 3	16 35 18.81	
28	18.82	8.5
July 26	18.78	

η HERCULIS.

June 8	16 38 26.42	
Oct. 30	(26.58)	
Nov. 6	26.46	

WEISSE 758.

June 28	16 40 27.03	
July 6	27.03	9.0

WEISSE 760.

June 28	16 40 28.90	
July 6	28.96	7.7

WEISSE 792, (1st *.)

1865.	h. m. s.	Mag.
June 23	16 42 13.20	
26	13.11	

WEISSE 792, (2d *.)

June 23	16 42 16.64	
26	16.82	

20 OPHIUCHI.

April 15	16 42 38.65	

WEISSE 854.

June 8	16 45 18.67	7.7
July 6	18.82	7.7

LALANDE 30671.

June 10	16 45 36.47	
22	36.35	8.0
23	36.36	
26	36.41	

(*) — 22° 7′.

June 28	16 46 7.55	9.0

B. A. C. 5684.

June 23	16 47 31.46	

23 OPHIUCHI.

June 8	16 47 38.82	6.0
10	38.89	
July 6	38.85	6.0

(*) — 31° 14′.

June 23	16 47 52.88	

WEISSE 913.

June 8	16 48 51.61	7.5
10	51.74	
July 6	51.74	7.5

24 OPHIUCHI.

June 24	16 48 57.67	

(*) — 4° 7′.

June 3	16 50 34.52	

WEISSE 958.

June 10	16 51 27.40	
28	27.43	8.0
July 6	27.33	8.0

κ OPHIUCHI.

April 15	16 51 30.93	
June 7	30.90	
8	30.98	
July 7	30.87	
21	30.93	
28	30.87	
Aug. 9	30.92	
29	30.88	

O. ARG. S. 16223.

April 15	16 53 48.24	
July 5	48.36	

29 OPHIUCHI.

April 15	16 54 15.15	
June 8	15.06	6.0
July 15	15.20	

B. A. C. 5730.

1865.	h. m. s.	Mag
June 23	16 55 35.38	

(*) — 24° 2′.

June 22	16 56 1.91	8.5

B. A. C. 5742.

June 22	16 56 32.49	7.0

B. A. C. 5743.

June 24	16 56 35.96	
July 13	36.02	7.5

d HERCULIS.

July 3	16 56 48.40	
6	48.30	
27	48.35	

WEISSE (2) 1735.

Aug. 9	16 56 58.85	6.0

O. ARG. S. 16291.

June 23	16 57 3.29	

LACAILLE 7128.

June 26	16 57 44.65	

LALANDE 31055.

June 28	16 58 17.63	6.2
July 13	17.61	7.2

ε URSÆ MINORIS.

Mar. 18	16 59 23.60	
June 7	23.15	
10	23.24	
19	22.47	
21	23.34	
Aug. 1	22.62	
9	22.85	
11	23.40	
30	22.66	
Sept. 26	22.02	
Oct. 5	23.16	
9	23.09	
10	22.76	
11	21.71	
16	23.47	
21	21.89	
Nov. 1	22.87	
8	23.01	
12	23.32	
16	22.75	
24	22.88	
25	23.25	
27	22.61	
Dec. 1	22.46	
21	22.43	

ε URSÆ MINORIS, S. P.

Nov. 15	16 59 23.12	
Dec. 15	22.21	
21	23.16	
28	22.57	

O. ARG. S. 16352.

June 22	17 0 31.93	9.0
24	32.27	

LALANDE 31166.

June 23	17 2 14.24	
July 13	14.30	7.0

η OPHIUCHI.

1865.	h. m. s.	Mag.
Feb. 19	17 2 55.37	
Mar. 18	55.48	
Aug. 30	55.45	

LACAILLE 7160.

July 6	17 3 21.08	6.0

LALANDE 31199.

June 22	17 3 21.35	7.0
23	21.40	
26	21.37	
July 13	21.44	6.5

LACAILLE 7163.

July 14	17 4 17.98	
Aug. 9	18.18	

WEISSE 46.

June 24	17 4 50.47	
28	50.40	

O. ARG. S. 16477.

June 22	17 5 50.84	9.0
26	51.04	
July 6	51.10	9.0

(*) — 33° 35′.

June 23	17 6 26.75	

SCHWERD 1014.

June 8	17 6 51.15	7.0

O. ARG. S. 16497.

June 22	17 6 52.31	8.3
26	52.34	
July 6	52.47	8.0
13	52.42	8.0

A OPHIUCHI, (1st *.)

June 28	17 7 21.48	(5.6)

A OPHIUCHI, (2d *.)

June 28	17 7 21.61	6.2

B. A. C. 5813.

June 28	17 8 14.07	

WEISSE 115.

July 28	17 8 19.74	

WEISSE 117.

Aug. 9	17 8 24.93	7.5

a HERCULIS, (1st *.)

Jan. 11	17 8 43.23	
Mar. 18	43.28	
June 22	43.22	
24	43.17	
29	43.23	
July 7	43.15	
14	43.22	
21	43.16	
25	43.19	
26	43.15	
28	43.17	
Aug. 8	43.17	
11	43.17	
16	43.15	
29	43.20	
Sept. 26	43.13	

α Herculis, (1st *)—Continued.

1865.	h. m. s.	Mag.
Oct. 5	17 8 43.28	
8	43.19	
9	43.23	
11	43.19	
16	(43.07)	
17	43.26	
20	43.21	
21	43.26	
Nov. 1	43.26	
6	43.28	
7	43.21	
8	43.26	
9	43.30	
12	43.27	
14	43.24	
16	43.16	
17	43.25	
18	43.32	
24	43.18	
Dec. 21	42.33	

α Herculis, (2d *.)

Aug. 26	17 8 43.50	

O. Arg. S. 16573, (1st *.)

July 6	17 10 5.09	7.5

O. Arg. S. 16573, (2d *.)

July 6	17 10 5.10	6.3

(*) — 34° 50′.

June 23	17 10 6.06	
26	5.99	

B. A. C. 5831.

July 13	17 10 10.80	5.8

(*) — 4° 6′.

June 24	17 10 46.71	9.0

O. Arg. S. 16600.

Aug. 9	17 11 39.38	

Lacaille 7230.

June 22	17 11 50.11	8.0
July 26	50.37	

Weisse 186.

June 8	17 12 5.19	7.7
28	5.26	
July 13	5.17	7.5
14	5.11	

ξ Ophiuchi.

July 6	17 13 12.83	5.0

O. Arg. S. 16644.

July 20	17 13 21.42	8.0

ν Serpentis.

Mar. 18	17 13 30.89	
July 24	30.94	5.0
Aug. 30	30.98	

Lacaille 7241.

June 22	17 13 47.23	7.0
23	47.42	
26		

θ Ophiuchi.

1865.	h. m. s.	Mag.
April 15	17 14 1.71	
June 8	1.56	
Aug. 29	1.65	

(*) — 24° 51′.

April 15	17 14 19.04	8.3

Weisse 249.

June 28	17 15 32.64	
July 3	32.56	
13	32.65	8.3

B. A. C. 5862.

June 22	17 16 8.38	6.5
23	8.48	
26	8.49	

B. A. C. 5868.

June 3	17 17 9.46	6.2
Aug. 7	9.51	
9	9.72	

(*) — 31° 28′.

June 22	17 18 12.23	8.0
July 3	12.33	
6	12.31	7.0

b Ophiuchi.

Mar. 18	17 18 25.88	
June 2	25.97	
3	25.86	
8	25.91	
23	25.90	
28	25.98	
July 13	26.01	4.0
Aug. 2	26.04	
7	25.94	
8	25.93	
15	25.93	
29	25.98	
30	25.89	

B. A. C. 5892.

June 22	17 20 17.02	7.2
July 3	17.13	

O. Arg. N. 17136.

July 25	17 20 30.82	8.0
26	31.47	

O. Arg. S. 16842.

Aug. 9	17 22 0.95	

O. Arg. S. 16856.

Aug. 9	17 22 25.16	

O. Arg. N. 17168.

June 3	17 22 59.98	
July 22	59.41	9.3

O. Arg. S. 16875.

Aug. 9	17 23 20.81	

c^2 Ophiuchi.

June 22	17 23 29.09	4.5
23	29.06	
26	29.03	
July 13	29.17	4.5

B. A. C. 5923.

1865.	h. m. s.	Mag.
June 23	17 26 12.93	7.5
28	12.84	6.5

(*) — 31° 12′.

June 22	17 26 15.78	9.0
26	16.19	
July 13	15.97	8.7

(*) — 38° 33′.

July 14	17 26 36.74	9.0

O. Arg. S. 16952.

July 28	17 26 57.31	7.2

β Draconis.

April 15	17 27 29.62	

B. A. C. 5932.

July 14	17 27 35.69	5.0

O. Arg. S. 16966.

July 28	17 27 43.76	8.0

Weisse 508.

June 3	17 28 0.19	
July 17	0.07	
Aug. 28	0.18	

B. A. C. 5938.

July 22	17 28 30.78	7.0

α Ophiuchi.

Jan. 11	17 28 53.97	
24	54.02	
Feb. 19	54.02	
Mar. 18	54.01	
19	54.02	
May 12	54.08	
June 3	54.08	
9	53.99	
July 7	53.96	
17	53.97	
20	54.04	
26	54.02	
Aug. 2	54.01	
3	53.98	
7	54.03	
8	53.93	
11	54.03	
28	54.05	
30	53.98	
Oct. 5	54.02	
11	54.04	
25	53.99	
Nov. 1	54.01	
6	54.08	
8	53.99	
10	54.07	
11	54.02	
13	54.01	
15	54.04	
17	54.03	
18	53.96	
24	53.97	
25	54.07	
27	54.04	
Dec. 22	54.00	

ξ Serpentis.

April 15	17 30 8.73	
Aug. 30	8.57	

(*) — 32° 9′.

1865	h. m. s.	Mag.
July 20	17 31 32.63	7.0
22	32.68	7.0
25	32.76	7.3

B. A. C. 5960.

July 22	17 31 34.06	7.0
25	34.13	6.5
Aug. 11	34.12	

B. A. C. 5961.

June 2	17 32 9.01	
July 3	8.91	
13	8.99	6.7

(*) — 32° 6′.

Aug. 12	17 32 15.18	

B. A. C. 5964.

July 22	17 32 30.22	7.0
25	30.13	7.3
Aug. 11	30.14	

(*) — 32° 5′.

Aug. 12	17 33 9.97	8.0

o Serpentis.

April 15	17 34 6.63	
May 14	6.75	
June 9	6.63	
July 6	6.51	

(*) — 27° 48′.

June 22	17 34 39.15	9.0
23	39.24	9.0
July 3	39.08	

(*) — 28° 0′.

Aug. 7	17 35 3.11	9.4

B. A. C. 5981.

June 2	17 35 6.73	
22	6.53	7.0
23	6.61	7.0
July 3	6.52	
13	6.75	6.0

O. Arg. S. 17132.

July 28	17 36 24.70	8.2
Aug. 7	24.90	9.2

Weisse 697.

July 6	17 36 56.50	8.5
20	56.56	9.0
25	56.56	8.5
Aug. 12	56.57	8.5

O. Arg. S. 17152.

July 28	17 37 11.77	9.0
Aug. 7	11.76	8.8

O. Arg. S. 17157.

July 28	17 37 19.83	
Aug. 7	19.80	9.2

Weisse 713.

July 6	17 37 31.02	8.0
25	31.02	8.2
Aug. 12	30.94	8.0

3 Sagittarii.

1865.	h. m. s.	Mag.
June 22	17 39 22.64	4.5
23	22.73	
July 3	22.72	
13	22.79	4.5
Aug. 9	22.80	

Weisse 755.

July 20	17 39 27.99	7.5
22	27.97	7.5
25	28.11	8.0
Aug. 12	27.94	7.6

Weisse 779.

July 22	17 40 5.20	9.0
25	5.33	8.5
Aug. 12	5.16	8.4

μ Herculis.

Feb. 19	17 41 22.37	
Mar. 19	22.26	
June 23	22.29	
July 3	22.27	
6	22.19	
26	22.34	
28	22.31	
Aug. 2	22.25	
9	22.32	
Oct. 11	22.30	
20	22.26	

(*) — 35° 19′.

July 14	17 42 0.17	9.0

(*) — 22° 52′.

June 22	17 42 26.23	9.0

(*) — 35° 14′.

July 14	17 43 8.82	

O. Arg. S. 17270.

June 8	17 43 14.34	8.2
22	14.28	
July 6	14.40	6.5
13	14.46	6.8

O. Arg. S. 17275.

April 15	17 43 23.44	8.8

O. Arg. S. 17281.

July 17	17 43 51.74	
Aug. 7	51.73	9.0

O. Arg. S. 17284.

Aug. 7	17 43 58.21	9.0

O. Arg. S. 17320.

June 8	17 45 33.66	7.7
22	33.57	7.0
July 3	33.64	
6	33.65	7.5

B. A. C. 6046.

July 14	17 45 48.38	
22	48.20	7.0
Aug. 12	48.44	6.8

(*) — 34° 35′.

July 13	17 46 8.72	6.7
14	8.70	6.2
Aug. 12	8.78	7.0

(*) — 28° 44′.

1865.	h. m. s.	Mag.
June 22	17 46 44.29	8.0

(*) — 23° 50′.

April 15	17 47 40.20	9.8

O. Arg. S. 17354.

Aug. 7	17 47 43.65	9.0

O. Arg. S. 17361.

Aug. 7	17 47 58.52	9.0

(*) — 34° 37′.

July 14	17 48 1.73	8.9
Aug. 12	1.74	7.2

Lalande 32766.

April 15	17 49 10.81	7.6

O. Arg. S. 17394.

July 28	17 49 33.67	

(*) — 36° 51′.

Aug. 12	17 50 1.87	8.5

B. A. C. 6070.

Aug. 12	17 50 5.80	6.5

O. Arg. S. 17412.

July 28	17 50 19.16	
Aug. 7	19.19	8.0

O. Arg. S. 17413.

Aug. 7	17 50 19.17	7.8

Lacaille 7516.

Aug. 12	17 50 23.21	7.0

B. A. C. 6072.

July 3	17 50 24.14	
6	24.19	6.0

O. Arg. S. 17426.

July 28	17 51 0.60	
Aug. 7	0.72	7.8

O. Arg. N. 17680.

July 22	17 51 34.36	9.5

4 Sagittarii.

April 15	17 51 51.41	5.0
June 2	51.40	6.0
8	51.41	5.4
24	51.39	4.5
July 13	51.42	4.5
25	51.33	4.0
Aug. 30	51.33	

O. Arg. S. 17447.

Aug. 7	17 51 53.30	8.0

O. Arg. S. 17449.

Aug. 7	17 51 58.98	8.5

B. A. C. 6081.

July 17	17 52 16.06	

(*) — 23° 33′.

1865.	h. m. s.	Mag.
June 22	17 53 14.93	7.5
July 6	15.10	8.0
13	15.08	8.5

γ Draconis.

Jan. 13	17 53 35.12	
15	35.37	

O. Arg. S. 17509.

June 2	17 54 38.77	
22	38.63	
July 6	38.63	7.5
13	38.79	7.5

O. Arg. S. 17510.

Aug. 11	17 54 40.79	

(*) — 21° 30′.

June 8	17 54 51.13	8.0
24	51.31	8.0
July 3	51.16	
17	51.08	7.2
25	51.19	7.2

7 Sagittarii.

July 28	17 54 53.08	
Aug. 11	53.24	

(*) — 22° 51′.

Juye 22	17 55 25.78	
July 6	25.89	7.8
13	25.94	8.0

g Sagittarii.

July 28	17 55 53.99	
Aug. 11	54.16	

O. Arg. S. 17540.

July 28	17 55 58.69	
Aug. 11	58.88	

(*) — 22° 48′.

June 22	17 56 2.96	6.7
July 6	3.10	7.0
13	3.18	7.0

O. Arg. S. 17555.

Aug. 11	17 56 27.52	

O. Arg. S. 17560.

Aug. 11	17 56 29.65	

Weisse 1174.

Aug. 12	17 56 54.45	8.0

B. A. C. 6111.

Aug. 11	17 57 12.20	

γ^2 Sagittarii.

June 2	17 57 27.45	8.0
24	27.54	
July 14	27.42	
Sept. 27	27.44	

O. Arg. S. 17597.

July 28	17 58 6.98	
Aug. 7	7.06	

(*) — 21° 27′.

1865.	h. m. s.	Mag.
June 8	17 58 22.53	9.0
July 17	22.56	8.0
25	22.58	9.0

O. Arg. S. 17612.

July 28	17 58 32.32	

70 Ophiuchi, (1st *.)

Aug. 12	17 58 53.00	6.0

70 Ophiuchi, (2d *)

Aug. 12	17 58 53.35	7.2

Lalande 33147.

July 17	17 59 3.06	7.4
25	3.23	7.5

Lalande 33164.

June 8	17 59 23.51	7.0
22	23.51	6.5
July 6	23.54	7.0
17	23.58	6.8
25	23.49	6.5

(*) — 22° 54′.

July 13	17 59 49.07	8.6

B. A. C. 6127.

July 26	17 59 50.81	

(*) — 22° 54′.

June 24	17 59 57.32	
July 13	57.24	7.0

Lalande 33210.

June 8	18 0 50.78	6.0
22	50.66	6.5
July 6	50.75	7.0
25	50.72	6.5

(*) — 21° 24′.

July 6	18 1 7.89	8.0
25	7.89	8.0

Lacaille 7588.

June 23	18 1 28.77	

(*) + 2° 32′.

Aug. 12	18 1 34.37	8.0

(*) + 2° 32′.

Aug. 12	18 1 36.82	7.2

Weisse 18.

Aug. 12	18 2 56.03	8.0

(*) — 23° 22′.

July 14	18 3 13.73	

B. A. C. 6161.

June 23	18 3 47.40	
24	47.44	5.4

O. Arg. S. 17796.

July 26	18 4 12.76	

O. Arg. S. 17809.

1865.	h. m. s.	Mag.
July 17 . .	18 4 33.72	8.0

O. Arg. S. 17817.

April 15 . .	18 4 54.17	9.2
Aug. 7 . .	54.08	8.8
12 . .	53.87	8.0

(*) — 21° 6′.

July 14 . .	18 5 56.77	8.9

μ Sagittarii.

April 15 . .	18 5 59.37	
June 7 . .	59.30	
8 . .	59.31	
9 . .	59.39	
22 . .	59.34	
23 . .	59.35	
24 . .	59.30	
29 . .	59.22	
July 3 . .	59.25	
6 . .	59.32	
7 . .	59.34	
13 . .	59.36	
14 . .	59.35	
25 . .	59.30	
28 . .	59.28	
Aug. 2 . .	59.27	
7 . .	59.34	
8 . .	59.36	
12 . .	59.37	
14 . .	59.28	
30 . .	59.34	
31 . .	59.36	
Sept. 27 . .	59.40	

(*) — 21° 5′.

July 14 . .	18 6 2.54	8.9

O. Arg. S. 17871.

May 13 . .	18 6 27.37	

O. Arg. S. 17892.

June 24 . .	18 7 21.09	8.0
July 17 . .	21.03	
26 . .	20.99	8.0

O. Arg. S. 17905.

June 24 . .	18 7 37.48	8.2
July 17 . .	37.48	
26 . .	37.21	7.8

O. Arg. S. 17916.

June 24 . .	18 7 48.82	8.5
July 17 . .	48.58	
26 . .	48.71	8.2

O. Arg. S. 17928.

June 24 . .	18 8 5.90	8.5
July 26 . .	5.85	8.2

(*) — 18° 58′.

June 24 . .	18 8 7.33	8.6
July 17 . .	7.24	
26 . .	7.13	

(*) — 18° 58′.

July 17 . .	18 8 46.40	
26 . .	46.31	

O. Arg. S. 17955.

1865.	h. m. s.	Mag.
June 23 . .	18 8 50.68	
July 13 . .	50.66	7.0

B. A. C. 6191.

Aug. 12 . .	18 9 9.33	7.0

(*) — 18° 37′.

Aug. 15 . .	18 9 13.12	9.0

O. Arg. S. 17965.

June 24 . .	18 9 19.34	7.6
July 17 . .	19.22	
26 . .	19.18	7.8

O. Arg. S. 18000.

Aug. 25 . .	18 10 20.17	

O. Arg. S. 18015.

Aug. 15 . .	18 11 5.13	7.5

O. Arg. S. 18017.

Aug. 15 . .	18 11 6.19	

(*) — 28° 25′.

Aug. 12 . .	18 12 47.11	8.0

18 Sagittarii.

June 24 . .	18 12 53.04	

η Serpentis.

Mar. 20 . .	18 14 34.98	
June 24 . .	34.93	
Aug. 25 . .	(35.14)	

B. A. C. 6226.

Aug. 16 . .	18 14 42.13	6.0

O. Arg. S. 18115, (1st *.)

Aug. 9 . .	18 14 47.06	
11 . .	47.13	

O. Arg. S. 18115, (2d *.)

Aug. 9 . .	18 14 47.63	
11 . .	47.68	

Dorpat 2313, (1st *.)

Aug. 9 . .	18 17 43.86	
11 . .	43.88	

Dorpat 2313, (2d *.)

Aug. 9 . .	18 17 43.97	
11 . .	43.97	

B. A. C. 6267.

Aug. 25 . .	18 20 21.42	

(*) — 17° 52′.

Aug. 25 . .	18 20 28.54	

d Serpentis, (1st *.)

Aug. 9 . .	18 20 33.29	
11 . .	33.34	
12 . .	33.20	7.0
16 . .	33.23	7.0

d Serpentis, (2d *.)

1865.	h. m. s.	Mag.
Aug. 9 . .	18 20 33.48	
11 . .	33.53	
12 . .	33.43	8.5
16 . .	33.40	8.5

Lacaille 7728.

June 23 . .	18 21 1.86	

Weisse 473.

Aug. 16 . .	18 21 10.80	

B. A. C. 6272.

May 13 . .	18 21 47.18	5.4

B. A. C. 6284.

May 13 . .	18 22 21.86	6.0

O. Arg. S. 18317.

July 13 . .	18 23 26.39	7.0

B. A. C. 6292.

June 23 . .	18 23 41.51	7.5
July 25 . .	41.51	7.5

B. A. C. 6301.

July 4 . .	18 24 50.16	
25 . .	50.21	7.0

Weisse 570.

Aug. 9 . .	18 25 4.92	
14 . .	4.95	
15 . .	4.74	9.2
16 . .	4.77	9.0

B. A. C. 6304.

May 13 . .	18 25 17.38	6.2

B. A. C. 6310.

July 28 . .	18 25 55.53	7.2

24 Sagittarii.

May 13 . .	18 25 56.92	5.8
Aug. 31 . .	56.97	
Sept. 27 . .	56.96	

(*) — 30° 59′.

July 28 . .	18 26 1.71	

B. A. C. 6319.

July 28 . .	18 27 24.60	7.4

1 Aquilæ.

Mar. 20 . .	18 28 7.95	
June 8 . .	7.96	
22 . .	7.93	
23 . .	7.96	
28 . .	7.91	
29 . .	7.91	
July 6 . .	7.92	
7 . .	8.00	
13 . .	7.99	
14 . .	7.93	
17 . .	7.93	
25 . .	7.98	
Aug. 9 . .	7.98	
11 . .	8.00	
12 . .	7.91	
14 . .	7.96	
15 . .	7.94	
16 . .	7.88	
24 . .	8.00	
26 . .	8.01	
30 . .	7.98	
31 . .	7.88	
Sept. 27 . .	8.01	

B. A. C. 6334.

1865.	h. m. s.
July 28 . .	18 29 [illegible]

Weisse 696.

Aug. 9 . .	18 30 [illegible]	
11 . .	[illegible]	
12 . .	[illegible]	
14 . .	[illegible]	
16 . .	[illegible]	

B. A. C. 6361.

June 23 . .	18 30 [illegible]	
July 25 . .	[illegible]	

(*) — 12° 45′.

Aug. 9 . .	18 31 [illegible]	

O. Arg. S. 18556.

Aug. 15 . .	18 31 [illegible]	

O. Arg. S. 18506, (1st *.)

Aug. 15 . .	18 31 [illegible]	

O. Arg. S. 18506, (2d *.)

Aug. 15 . .	18 31 [illegible]	

α Lyræ.

Jan. 11 . .	18 32 [illegible]	
24 . .	[illegible]	
Feb. 1 . .	[illegible]	
Mar. 19 . .	[illegible]	
20 . .	[illegible]	
June 11 . .	[illegible]	
28 . .	[illegible]	
July 19 . .	[illegible]	
Sept. 1 . .	[illegible]	
Oct. 20 . .	[illegible]	
25 . .	[illegible]	
26 . .	[illegible]	
Nov. 6 . .	[illegible]	
7 . .	[illegible]	
10 . .	[illegible]	
13 . .	[illegible]	
17 . .	[illegible]	
24 . .	[illegible]	
25 . .	[illegible]	
27 . .	[illegible]	
Dec. 21 . .	[illegible]	
22 . .	[illegible]	
23 . .	[illegible]	

Weisse 779.

Aug. 11 . .	18 32 [illegible]	
16 . .	[illegible]	
24 . .	[illegible]	
25 . .	[illegible]	

Weisse 792.

Aug. 9 . .	18 33 [illegible]	
11 . .	[illegible]	
12 . .	[illegible]	
14 . .	[illegible]	
16 . .	[illegible]	

26 Sagittarii.

May 13 . .	18 33 [illegible]	
June 24 . .	[illegible]	
July 17 . .	[illegible]	

(*) — 11° 13′.

Aug. 15 . .	18 35 [illegible]	

O. ARG. S. 18577.

1865.	h. m. s.	Mag.
May 14	18 35 15.44	8.0

WEISSE 874.

Aug. 11	18 36 17.61	
16	17.40	

LACAILLE 7838.

June 4	18 36 35.33	6.5
24	35.27	
Sept. 1	35.32	

O. ARG. N. 18534.

Aug. 24	18 36 36.64	8.0

O. ARG. S. 18625.

May 13	18 37 33.30	
14	33.23	7.5

LALANDE 35006.

Aug. 24	18 38 12.60	8.0

B. A. C. 6376.

June 11	18 38 20.58	6.0
Aug. 25	20.47	

LALANDE 35041.

Aug. 24	18 39 12.83	8.5

WEISSE 971.

Aug. 11	18 39 43.23	9.0

O. ARG. S. 18672.

May 13	18 40 9.60	5.4

WEISSE 993.

Aug. 9	18 40 27.88	
11	27.94	8.6
12	27.88	7.5
14	27.97	
16	27.81	
25	27.83	

(*) — 6° 9′.

July 17	18 41 40.49	9.3

WEISSE 1020.

July 17	18 41 41.69	8.2

LALANDE 34916.

May 14	18 41 56.43	7.2

29 SAGITTARII.

May 13	18 41 57.14	5.0
June 11	57.24	5.5
24	57.23	

LALANDE 34984.

July 17	18 42 43.64	5.0

LALANDE 34990.

May 13	18 43 17.01	7.0

LALANDE 35046.

May 13	18 44 33.86	8.5

LACAILLE 7901.

1865.	h. m. s.	Mag.
June 11	18 45 2.51	7.3
24	2.62	
Aug. 16	2.51	

β LYRÆ.

Feb. 1	18 45 16.81	
Aug. 3	16.81	
11	16.86	
12	16.85	
14	16.78	
Oct. 26	16.87	
Nov. 6	16.84	
7	16.84	
10	16.81	
13	16.85	
14	16.86	
17	16.78	

ν^1 SAGITTARII.

May 13	18 46 19.06	5.0
14	19.18	

σ SAGITTARII.

Mar. 20	18 47 12.15	
July 7	12.28	
Sept. 1	12.20	

ν^2 SAGITTARII.

May 13	18 47 15.62	4.8
June 11	15.55	5.5

B. A. C. 6448.

July 28	18 48 8.29	

B. A. C. 6450.

July 28	18 48 41.89	

WEISSE 1219.

June 24	18 48 57.36	9.8
July 17	57.37	9.5
Aug. 11	57.47	9.5

θ SERPENTIS, (1st *.)

Aug. 25	18 49 45.33	

θ SERPENTIS, (2d *.)

Aug. 25	18 49 46.84	

O. ARG. S. 18878.

May 13	18 49 51.48	8.6

WEISSE 1285.

July 20	18 51 43.55	7.5
Aug. 26	43.68	7.3
Sept. 1	43.74	

O. ARG. S. 18913.

July 28	18 51 44.94	
Sept. 27	44.87	

WEISSE 1314.

July 20	18 52 52.80	8.5
Aug. 9	52.95	
11	53.00	8.6
26	52.78	8.2
Sept. 1	52.95	

O. ARG. S. 18953.

1865.	h. m. s.	Mag.
May 14	18 53 25.75	7.0

WEISSE 1333.

Aug. 24	18 53 28.24	8.5

B. A. C. 6485.

June 24	18 53 47.53	
July 28	47.47	6.5

LALANDE 35497.

May 13	18 55 25.17	
Sept. 27	25.07	

LALANDE 35499.

May 13	18 55 28.87	
June 11	28.85	6.0
July 28	28.83	6.0
Sept. 27	28.75	

(*) — 7° 30′.

Aug. 11	18 55 39.90	
24	39.88	

(*) — 7° 30′.

July 17	18 55 49.98	
Aug. 26	49.96	9.5

WEISSE 1398.

July 17	18 56 1.81	
Aug. 9	1.85	
11	1.97	
24	1.88	
25	1.92	
26	1.96	9.0

DORPAT 2434, (1st *.)

July 20	18 56 2.74	8.0
Sept. 1	2.74	

DORPAT 2434, (2d *.)

July 20	18 56 3.79	8.3
Sept. 1	3.94	

O. ARG. S. 19007.

May 14	18 56 26.69	9.0

WEISSE 1412.

July 17	18 56 27.85	
Aug. 11	27.91	
24	27.91	8.5
25	27.99	
26	27.99	8.8

o SAGITTARII.

Aug. 31	18 56 53.51	

O. ARG. S. 19083, (South *).

Aug. 11	18 59 23.65	7.2
26	23.53	

O. ARG. S. 19083, (North *.)

Aug. 11	18 59 23.61	9.2

ζ AQUILÆ.

1865.	h. m. s.	Mag.
Mar. 18	18 59 26.10	
20	26.10	
May 13	26.07	
14	26.06	
June 24	26.09	
July 7	26.10	
17	26.02	
20	26.19	
21	26.07	
28	26.14	
Aug. 3	26.07	
8	26.13	
16	26.11	
31	26.15	
Nov. 24	26.11	
25	26.09	
Dec. 1	26.06	
8	26.14	

(*) — 1° 30′.

Aug. 25	18 59 31.52	

(*) — 18° 57′.

June 11	18 59 31.78	6.0
Aug. 15	31.70	7.0
Sept. 27	31.73	6.8

WEISSE 1525.

May 13	18 59 51.74	9.2

(*) — 18° 57′.

Sept. 27	19 0 1.21	9.2

WEISNE 1539.

May 13	19 0 20.49	

(*) — 1° 30′.

Aug. 25	19 0 43.39	

π SAGITTARII.

June 11	19 2 1.88	
Aug. 31	1.89	
Oct. 26	1.86	

LACAILLE 8023.

May 14	19 3 16.73	7.5

(*) — 8° 3′.

Aug. 11	19 3 32.45	8.8
Sept. 1	32.42	

(*) — 23° 25′.

Aug. 15	19 3 36.43	8.2

(*) — 8° 6′.

Aug. 11	19 4 12.12	8.0
Sept. 1	12.11	

(*) — 8° 10′.

Aug. 25	19 5 3.46	

20 AQUILÆ.

June 11	19 5 37.59	5.0
Aug. 25	37.64	
31	37.57	

O. Arg. S. 19256.

1865.	h. m. s.	Mag.
Aug. 24	19 5 50.07	7.5
28	50.07	7.6
Sept. 27	50.01	

Lacaille 8045.

May 14	19 7 16.96	7.0

(*) — 33° 42′.

May 14	19 7 19.80	8.0

Lacaille 8051.

May 14	19 8 3.13	6.5

d Sagittarii.

June 11	19 10 1.62	5.0
Aug. 24	1.63	
25	1.71	
Sept. 1	1.66	
27	1.63	
Oct. 26	1.56	

Weisse 224.

July 20	19 10 37.97	

ω Aquilæ.

May 13	19 11 42.80	
Aug. 26	42.83	

23 Aquilæ, (1st *.)

July 20	19 11 55.59	
Aug. 31	55.55	5.5

23 Aquilæ, (2d *.)

Aug. 31	19 11 55.64	8.3

Dorpat 2497, (North *.)

Aug. 25	19 13 37.24	

Dorpat 2497, (South *.)

Aug. 25	19 13 37.31	

O. Arg. S. 19418.

June 11	19 13 43.83	7.7
Aug. 24	43.75	7.7
26	43.81	8.5
31	43.74	7.8

O. Arg. S. 19423.

June 11	19 13 53.84	8.5
Aug. 24	53.82	8.5
26	53.71	8.5
31	53.83	8.5

ρ^1 Sagittarii.

Sept. 1	19 14 8.08	
Oct. 26	7.94	

Lacaille 8092.

May 14	19 15 33.03	7.0

(*) — 8° 27′.

May 12	19 16 48.45	8.2

(*) — 8° 9′.

Sept. 1	19 18 1.92	

δ Aquilæ.

1865.	h. m. s.	Mag.
Mar. 21	19 18 56.57	
May 14	56.57	
Aug. 11	56.64	
Oct. 26	56.60	

O. Arg. S. 19575.

June 11	19 20 14.57	8.0
Aug. 24	14.55	8.2
31	14.48	

(*) — 23° 26′.

Sept. 1	19 23 10.20	

(*) — 23° 26′.

Aug. 31	19 23 52.67	8.0

O. Arg. S. 19674.

June 11	19 24 37.20	7.5
July 20	37.11	8.0
Aug. 15	37.18	7.5
Sept. 28	37.21	

B. A. C. 6685.

Aug. 25	19 24 54.69	
31	54.56	8.0

O. Arg. S. 19709.

May 14	19 26 22.66	8.5

O. Arg. S. 19713.

May 14	19 26 30.59	9.0

(*) — 28° 59′.

Aug. 24	19 27 47.02	8.0
25	47.16	

O. Arg. S. 19737.

June 11	19 27 55.51	8.0
Aug. 15	55.49	8.0
24	55.48	7.5
25	55.46	

O. Arg. S. 19746.

June 11	19 28 18.10	7.8
Aug. 15	18.07	7.2
24	18.15	7.0
25	18.13	

(*) — 39° 3′.

Aug. 26	19 29 18.74	
Sept. 1	18.68	

κ Aquilæ.

June 11	19 29 53.79	
July 20	53.72	
Sept. 28	53.83	

Lacaille 8170.

May 14	19 30 23.45	8.0

(*) — 24° 43′.

Aug. 24	19 32 48.03	9.3

(*) — 24° 0′.

May 14	19 33 15.34	8.5
June 11	15.36	8.3
Aug. 15	15.40	8.0
25	15.33	
31	15.42	8.0

(*) — 24° 0′.

May 14	19 33 52.23	8.5
June 11	52.26	8.2
Aug. 15	52.39	8.0
25	52.42	
31	52.29	8.0

(*) — 23° 59′.

Aug. 25	19 34 22.21	
31	22.01	8.6

O. Arg. S. 19880.

Aug. 24	19 34 45.50	7.3

σ^2 Sagittarii.

Sept. 28	19 35 4.84	
Oct. 26	4.84	

(*) + 5° 50′.

Aug. 15	19 36 28.49	9.0

(*) — 23° 12′.

Aug. 25	19 36 46.12	7.8

O. Arg. S. 19909.

Sept. 1	19 36 52.86	

Dorpat 2566.

Aug. 15	19 37 49.53	
24	49.64	9.5

f Sagittarii.

June 11	19 38 46.67	5.2
Sept. 1	46.62	
28	46.54	
Oct. 26	46.54	

γ Aquilæ.

Mar. 6	19 40 4.72	
20	4.70	
May 14	4.66	
Aug. 14	4.75	
15	4.64	
25	4.73	
26	4.78	
31	4.79	
Sept. 1	4.73	
Oct. 10	4.75	
Nov. 11	4.71	
13	4.71	
17	4.71	
24	4.76	
27	4.77	

(*) — 10° 20′.

Aug. 31	19 41 58.63	7.6

(* 119) W.

Sept. 28	19 42 3.55	9.2

O. Arg. S. 19987.

Aug. 24	19 42 7.74	8.5
25	7.81	7.8

Weisse 1068.

May 14	19 43 8.06	7.0
June 11	8.02	7.0
Aug. 15	8.03	

α Aquilæ.

1865.	h. m. s.	Mag.
Feb. 19	19 44 [illegible]	
20	[illegible]	
23	[illegible]	
24	[illegible]	
Mar. 6	[illegible]	
20	[illegible]	
April 15	[illegible]	
Aug. 14	[illegible]	
15	[illegible]	
Sept. 1	[illegible]	
Oct. 10	[illegible]	
Nov. 11	[illegible]	
13	[illegible]	
17	[illegible]	
24	[illegible]	
27	[illegible]	
Dec. 8	[illegible]	
21	[illegible]	
22	[illegible]	

Weisse 1150.

June 11	19 46 [illegible]	
Aug. 15	[illegible]	
26	[illegible]	

Weisse 1160.

Aug. 24	19 46 [illegible]	

Lacaille 8363.

Aug. 31	19 47 [illegible]	

57 Aquilæ, (1st *.)

Sept. 28	19 47 [illegible]	

57 Aquilæ, (2d *.)

Sept. 28	19 47 [illegible]	

Weisse 1187.

June 11	19 47 [illegible]	
Aug. 15	[illegible]	
24	[illegible]	

β Aquilæ.

Aug. 12	19 48 [illegible]	
Sept. 2	[illegible]	
Oct. 10	[illegible]	
11	[illegible]	
Nov. 7	[illegible]	
11	[illegible]	
13	[illegible]	
17	[illegible]	
24	[illegible]	
27	[illegible]	
Dec. 8	[illegible]	

Weisse 1235.

Sept. 28	19 49 [illegible]	
Oct. 26	[illegible]	

Dorpat 2601.

Aug. 24	19 50 [illegible]	
Sept. 28	[illegible]	
Oct. 10	[illegible]	
26	[illegible]	

(*) — 23° 9′.

Aug. 15	19 52 [illegible]	

* O. Arg. S. 20145.

Aug. 31	19 53 [illegible]	

B. A. C. 6864.

1865.	h. m. s.	Mag.
Aug. 31 . .	19 53 40.19	7.8

WEISSE 1319.

Aug. 26 . .	19 53 48.82	

DORPAT 2612, (1st *.)

Sept. 28 . .	19 55 1.50	8.3
Oct. 9 . .	1.61	

DORPAT 2612, (2d *.)

Sept. 28 . .	19 55 3.59	
Oct. 9 . .	3.60	

DORPAT 2613, (1st *.)

Aug. 15 . .	19 55 14.47	
24 . .	14.56	
Oct. 10 . .	14.64	

DORPAT 2613, (2d *.)

Aug. 15 . .	19 55 14.53	
24 . .	14.65	
Oct. 10 . .	14.64	

WEISSE 1394.

Aug. 24 . .	19 55 58.89	7.0

τ AQUILÆ.

May 15 . .	19 57 47.34	
June 11 . .	47.40	

WEISSE 1512.

Sept. 28 . .	20 1 17.55	7.0

O. ARG. S. 20294.

Aug. 31 . .	20 3 48.86	
Sept. 26 . .	48.87	9.0
28 . .	48.84	9.0
Oct. 2 . .	48.98	
5 . .	48.84	
9 . .	48.98	

O. ARG. S. 20311.

Aug. 26 . .	20 5 11.50	7.2

WEISSE 81.

Aug. 25 . .	20 5 31.32	

O. ARG. S. 20320.

Aug. 15 . .	20 5 50.60	
24 . .	50.52	8.0
Sept. 26 . .	50.59	7.7
Oct. 5 . .	50.63	
9 . .	50.57	

(*) — 17° 17′.

Oct. 5 . .	20 5 55.58	

WEISSE 122.

Aug. 25 . .	20 6 53.45	
31 . .	53.37	
Oct. 9 . .	53.32	

(*) — 24° 15′.

Aug. 25 . .	20 8 26.74	
26 . .	26.81	
Sept. 11 . .	26.94	
Oct. 9 . .	26.71	

(*) — 24° 20′.

1865.	h. m. s.	Mag.
Sept. 11 . .	20 10 8.38	

a^1 CAPRICORNI.

Sept. 29 . .	20 10 26.31	

a^2 CAPRICORNI.

May 14 . .	20 10 50.42	
July 20 . .	50.26	
Aug. 15 . .	50.38	
24 . .	50.38	
26 . .	50.50	
31 . .	50.43	
Sept. 29 . .	50.31	
Oct. 5 . .	50.34	
9 . .	50.43	
10 . .	50.37	
26 . .	50.34	
Nov. 13 . .	50.35	
17 . .	50.39	
24 . .	50.40	

O. ARG. S. 20423.

Aug. 15 . .	20 13 31.31	7.5
24 . .	31.22	8.0
31 . .	31.32	8.0
Oct. 5 . .	31.22	

O. ARG. S. 20442.

Aug. 24 . .	20 14 52.64	7.8
25 . .	52.80	
Sept. 26 . .	52.72	7.5
Oct. 5 . .	52.72	7.5
7 . .	52.75	

(*) — 16° 2′.

Aug. 15 . .	20 15 17.54	9.0
25 . .	17.68	
Oct. 6 . .	17.54	
9 . .	17.54	

(*) — 19° 56′.

Aug. 24 . .	20 19 32.67	8.0

π CAPRICORNI.

Aug. 25 . .	20 19 52.68	
Sept. 1 . .	52.65	
26 . .	52.56	
29 . .	52.57	

ρ CAPRICORNI.

Sept. 2 . .	20 21 26.54	

B. A. C. 7044.

Sept. 2 . .	20 21 35.01	

B. A. C. 7063.

Aug. 24 . .	20 23 47.16	6.0
25 . .	47.23	6.0
Sept. 26 . .	47.21	6.0
Oct. 5 . .	47.15	

(*) — 15° 30′.

Aug. 24 . .	20 24 24.55	9.2
Sept 26 . .	24.61	9.0
Oct. 6 . .	24.74	

O. ARG. S. 20595.

Sept. 26 . .	20 25 43.30	9.0

ε DELPHINI.

1865.	h. m. s.	Mag.
May 15 . .	20 27 0.17	
Sept. 2 . .	0.12	

B. A. C. 7111.

Aug. 24 . .	20 30 7.16	8.0
25 . .	7.33	
Sept. 26 . .	7.21	7.0
Oct. 5 . .	7.12	

(*) + 44° 48′.

Aug. 23 . .	20 35 13.69	8.2

O. ARG. S. 20765.

Sept. 26 . .	20 35 52.15	8.5

α CYGNI.

Jan. 5 . .	20 36 60.10	
11 . .	60.06	
16 . .	59.90	
20 . .	59.91	
Feb. 19 . .	60.01	
23 . .	59.91	
24 . .	59.96	
Mar. 17 . .	60.09	
April 18 . .	60.03	
May 15 . .	59.93	
Aug. 23 . .	60.08	

O. ARG. S. 20827.

Sept. 26 . .	20 38 50.12	7.5

ε AQUARII.

May 15 . .	20 40 38.27	
16 . .	38.27	
Sept. 2 . .	38.24	
Oct. 29 . .	38.09	

(*) — 23° 15′.

Aug. 23 . .	20 40 41.32	7.8
25 . .	41.42	

B. A. C. 7197.

Aug. 21 . .	20 40 46.19	
23 . .	46.32	7.0
25 . .	46.40	
Sept. 26 . .	46.17	7.0

WEISSE 1125.

Sept. 12 . .	20 44 55.98	7.8

O. ARG. S. 20917.

Sept. 26 . .	20 45 16.15	7.3

μ AQUARII.

May 16 . .	20 45 38.45	
Aug. 23 . .	38.43	
30 . .	38.35	
Sept. 2 . .	38.36	
12 . .	38.41	
Oct. 11 . .	38.46	
Nov. 9 . .	38.54	
24 . .	38.39	
25 . .	38.46	

B. A. C. 7244.

Sept. 26 . .	20 46 22.79	6.5

(*) — 24° 45′.

Sept. 26 . .	20 47 40.87	8.3

32 VULPECULÆ.

1865.	h. m. s.	Mag.
Aug. 23 . .	20 49 1.11	

(*) — 19° 38′.

Aug. 25 . .	20 51 18.69	
Sept. 12 . .	18.40	9.6

(*) — 19° 39′.

Aug. 25 . .	20 51 35.12	
Sept. 12 . .	34.90	9.5

LACAILLE 8630.

Oct. 11 . .	20 51 46.71	

(*) — 19° 40′.

Sept. 12 . .	20 51 53.16	9.4

20 CAPRICORNI.

Oct. 11 . .	20 52 12.78	5.8

ν CYGNI.

May 17 . .	20 52 19.72	

LACAILLE 8635.

Oct. 11 . .	20 52 41.54	

LACAILLE 8641.

Sept. 26 . .	20 53 37.94	7.0

O. ARG. S. 21053.

Sept. 12 . .	20 55 21.70	6.5

(*) — 37° 54′.

Oct. 11 . .	20 58 7.50	

(*) — 23° 26′.

Aug. 25 . .	20 59 30.49	

A CAPRICORNI.

Oct. 2 . .	20 59 31.15	4.0

(*) — 39° 14′.

Oct. 11 . .	21 0 57 67	9.0

61 CYGNI, (1st *.)

May 17 . .	21 1 2.72	

61 CYGNI, (2d *.)

May 17 . .	21 1 4.18	

O. ARG. S. 21148.

Sept. 26 . .	21 1 18.20	8.6

O. ARG. S. 21154.

Sept. 12 . .	21 2 10.21	8.0

O. ARG. S. 21162.

Aug. 25 . .	21 2 29.57	
Sept. 12 . .	29.55	7.8
15 . .	29.58	
Oct. 5 . .	29.49	

B. A. C. 7347.

Sept. 12 . .	21 3 0.89	6.8
15 . .	0.96	

(*) — 23° 59′.

1865.	h.	m.	s.	Mag.
Sept. 14	21	3	8.24	
26			8.14	7.0
Oct. 5			8.05	

O. Arg. S. 21189, (1st *.)

Aug. 25	21	4	3.50	

O. Arg. S. 21189, (2d *.)

Aug. 25	21	4	2.92	

O. Arg. S. 21196.

Sept. 15	21	4	29.36	

O. Arg. S. 21219.

Aug. 25	21	5	55.74	
Oct. 5			55.60	

ζ Cygni.

Feb. 23	21	7	24.24	
Mar. 16			24.31	
April 18			24.21	
May 17			24.23	
Aug. 19			24.18	
Sept. 12			24.22	
15			24.16	
29			24.35	
Oct. 2			24.30	
5			24.27	

Weisse (2) 137.

Sept. 14	21	7	25.00	8.0

φ Capricorni.

Oct. 11	21	8	13.74	5.0

(*) — 22° 5′.

Sept. 12	21	10	9.15	8.0

O. Arg. S. 21285.

Aug. 19	21	11	10.05	

O. Arg. S. 21286.

Oct. 2	21	11	13.12	

Weisse 239.

Oct. 11	21	12	13.70	7.8

Weisse (2) 310.

Sept. 12	21	14	7.09	8.2

Weisse (2) 325.

Sept. 14	21	14	38.18	7.5

(*) — 23° 17′.

Sept. 12	21	14	49.29	8.2
15			49.43	
29			49.30	

α Cephei.

Jan. 28	21	15	28.35	
May 17			28.56	

B. A. C. 7413.

Sept. 12	21	15	33.05	5.6
29			33.02	

1 Pegasi.

1865.	h.	m.	s.	Mag.
Aug. 25	21	16	4.39	
Sept. 14			4.60	
26			4.49	

Lalande 41554.

Oct. 11	21	16	37.79	8.0

O. Arg. S. 21355.

Aug. 19	21	16	46.17	6.5

(*) — 23° 1′.

Sept. 15	21	18	42.68	
26			42.47	9.2
29			42.48	9.5

ζ Capricorni.

Aug. 19	21	19	14.70	4.5
Sept. 12			14.46	4.5
15			14.57	
26			14.56	4.0
29			14.45	

(*) — 19° 55′.

Sept. 12	21	19	54.55	8.0
14			54.65	
15			54.76	

Weisse 453.

Oct. 11	21	20	35.64	8.0

Weisse 465.

Oct. 11	21	21	11.43	7.2

Weisse 506.

Sept. 26	21	23	1.82	9.0
27			1.85	
28			1.77	

Weisse 522.

Oct. 11	21	23	32.96	7.2

O. Arg. S. 21438.

Sept. 29	21	24	3.10	

O. Arg. S. 21442.

Sept. 12	21	24	7.34	7.5
15			7.53	
29			7.36	

Weisse 543.

Aug. 19	21	24	31.44	9.8
Sept. 27			31.42	
28			31.24	

β Aquarii.

Jan. 4	21	24	42.82	
May 16			42.86	
17			42.90	
Aug. 23			42.83	
Sept. 20			42.91	
21			42.81	
22			42.87	
Oct. 1			42.87	
28			42.76	
Nov. 25			42.83	

(*) — 24° 30′.

Oct. 2	21	24	48.91	

(*) — 23° 40′.

1865.	h.	m.	s.	Mag.
Sept. 14	21	24	48.96	
15			48.95	

Lalande 41870.

Oct. 11	21	25	18.53	8.2

β Cephei.

Jan. 5	21	26	58.37	
20			58.35	
28			58.29	
30			58.30	
Mar. 6			58.37	
16			58.54	
Aug. 23			58.42	
Sept. 21			58.47	
Dec. 21			58.18	

β Cephei, S. P.

May 1	21	26	58.20	

O. Arg. S. 21480.

Sept. 14	21	27	25.88	8.7
20			25.93	
29			25.84	
Oct. 2			25.84	

Weisse 623.

Sept. 26	21	27	30.10	8.5
27			30.10	9.0
28			30.02	

B. A. C. 7490.

Sept. 15	21	27	32.92	
Oct. 6			32.70	

Weisse 628.

Sept. 26	21	27	41.18	8.3
27			41.16	8.6
28			41.08	

(*) — 8° 44′.

Sept. 27	21	27	49.53	9.2

(*) — 15° 14′.

Sept. 14	21	28	5.82	9.2

ε Capricorni.

Sept. 12	21	29	47.89	4.8
15			48.00	

Weisse 685.

Oct. 11	21	29	56.11	8.2

(*) — 8° 25′.

Oct. 29	21	30	12.78	

ξ Aquarii.

Oct. 1	21	30	49.78	
Nov. 25			49.76	
Oct. 29			49.77	

Weisse 739.

Aug. 19	21	32	9.62	8.2
23			9.67	
Sept. 14			9.56	7.8

O. Arg. S. 21550.

1865.	h.	m.	s.	Mag.
Sept. 15	21	32	41.03	
27			40.91	
29			40.94	

42 Capricorni.

Sept. 20	21	34	28.69	

B. A. C. 7536.

Sept. 12	21	34	29.43	6.5

B. A. C. 7550.

Aug. 19	21	35	57.12	5.5
Sept. 12			56.93	6.0
15			57.09	
21			56.88	7.0
Oct. 2			56.94	

Weisse 896.

Sept. 14	21	37	42.23	8.0

ε Pegasi.

Jan. 4	21	37	48.13	
5			48.09	
25			48.06	
Mar. 6			48.05	
16			48.06	
17			48.08	
31			48.09	
April 18			48.10	
May 16			48.08	
17			48.09	
Aug. 7			48.06	
Sept. 12			48.05	
14			48.13	
26			48.14	
27			48.12	
28			48.16	
Oct. 11			48.09	
28			48.06	
29			48.04	
Dec. 21			48.04	
22			48.05	
23			48.00	

ϵ^2 Capricorni.

Sept. 20	21	39	20.08	

Weisse 933.

Sept. 15	21	39	41.49	
29			41.42	
Oct. 2			41.42	

(*) — 12° 17′.

Sept. 27	21	40	19.02	

(*) — 1° 16′.

Oct. 11	21	40	24.30	9.2
29			24.29	9.5

(*) — 1° 10′.

Oct. 11	21	40	33.79	9.3

27 Aquarii.

Sept. 26	21	40	38.55	6.0
29			38.38	
Oct. 2			38.39	

(*) — 1° 10′.

Oct. 11	21	40	39.82	9.5

(*) + 1° 39′.

1865.	h. m. s.	Mag.
Sept. 21	21 41 36.83	
23	36.73	9.0
26	36.73	9.0

(*) + 2° 5′.

Sept. 21	21 42 21.68	9.2

Weisse 988.

Sept. 12	21 42 23.57	8.2
Oct. 28	23.75	8.0

(*) — 12° 22′.

Sept. 27	21 43 3.47	7.5

Weisse 1002.

Sept. 14	21 43 4.90	
15	4.90	
Oct. 2	4.75	

(*) + 2° 4′.

Sept. 20	21 43 27.21	
21	27.09	9.0
23	27.13	9.0

(*) + 2° 11′.

Sept. 22	21 43 31.09	
23	31.11	9.5

Weisse 1033.

Oct. 28	21 44 31.61	8.2

Weisse 1037.

Sept. 26	21 44 35.65	8.6
28	35.66	8.5
29	35.60	

(*) — 7° 10′.

Sept. 15	21 46 5.03	
29	5.06	

μ Capricorni.

Aug. 7	21 46 12.40	
19	12.35	
Sept. 23	12.35	
Oct. 11	12.37	
28	12.42	
29	12.30	

(*) + 3° 4′.

Sept. 12	21 46 25.70	9.8

Weisse 1085.

Aug. 23	21 47 6.54	9.0
Oct. 2	6.63	

Weisse 1087.

Sept. 14	21 47 17.71	
26	17.63	8.6
Oct. 2	17.52	

(*) — 11° 59′.

Sept. 26	21 47 23.45	9.2
Oct. 2	23.35	

(*) + 3° 5′.

Sept. 12	21 47 58.66	9.5

Weisse 1106.

1865.	h. m. s.	Mag.
Aug. 19	21 48 1.95	8.0
Sept. 14	1.93	
27	1.85	8.5
28	1.97	
29	1.87	7.5

B. A. C. 7649.

Sept. 12	21 51 28.44	6.0
14	28.57	6.0

O. Arg. S. 21772.

Aug. 19	21 51 52.40	8.8
Sept. 23	52.16	

O. Arg. S. 21774.

Aug. 19	21 51 57.73	7.2
Sept. 23	57.52	

(*) — 12° 38′.

Sept. 27	21 53 12.11	9.2

O. Arg. S. 21836.

Sept. 14	21 56 29.93	8.2

O. Arg. S. 21837.

Sept. 14	21 56 30.55	8.2

α Aquarii.

Jan. 12	21 59 6.41	
Mar. 26	6.42	
May 17	6.42	
Aug. 7	6.35	
Sept. 15	6.35	
21	6.40	
22	6.37	
Oct. 2	6.33	
16	6.32	
Dec. 22	6.35	

O. Arg. S. 21896.

Sept. 27	22 0 15.38	7.8

O. Arg. N. 23362.

Sept. 28	22 0 28.16	8.0

O. Arg. S. 21903.

Aug. 19	22 0 28.66	
12	28.55	
Sept. 14	28.56	
23	28.55	9.5
Oct. 2	28.44	

(*) — 23° 23′.

Oct. 16	22 0 45.51	

(*) + 52° 58′.

Sept. 29	22 0 52.92	9.5

O. Arg. N. 23385.

Aug. 23	22 1 12.25	7.0
Sept. 29	12.20	
Oct. 5	12.32	

O. Arg. N. 23425.

Aug. 23	22 1 48.25	8.5

(*) — 40° 19′.

1865.	h. m. s.	Mag.
Sept. 12	22 1 59.34	7.8

O. Arg. N. 23438.

Aug. 19	22 2 1.00	7.8

O. Arg. S. 21925.

Sept. 20	22 2 12.25	6.5

O. Arg. N. 23452.

Aug. 19	22 2 36.89	6.0
Sept. 22	37.13	
28	37.22	6.0
29	37.02	

(*) — 40° 13′.

Sept. 12	22 3 13.94	6.5
15	13.77	

O. Arg. S. 21944.

Sept. 20	22 3 15.36	9.0

O. Arg. S. 21962.

Sept. 20	22 4 30.71	

O. Arg. S. 21972.

Sept. 23	22 5 35.17	9.0
27	35.06	9.2

O. Arg. S. 21975.

Sept. 20	22 5 37.62	

O. Arg. S. 21980.

Sept. 23	22 5 42.31	9.0
27	42.37	9.0

O. Arg. S. 21983.

Sept. 20	22 5 44.29	

O. Arg. S. 21987.

Sept. 23	22 5 57.43	8.2
27	57.54	

O. Arg. S. 22002.

Sept. 23	22 6 55.09	7.0
27	55.00	7.0

Weisse 113.

Aug. 23	22 7 12.38	9.0
Sept. 14	12.51	
15	12.45	
22	12.48	
Oct. 5	12.46	

Weisse 129.

Sept. 28	22 7 47.21	9.0

O. Arg. S. 22022.

Sept. 23	22 8 29.71	8.2
27	29.58	8.2

Weisse 153.

Aug. 23	22 8 57.36	9.2
Sept. 28	57.40	8.0
Oct. 5	57.45	

θ Aquarii.

1865.	h. m. s.	Mag.
Aug. 7	22 9 58.35	
Sept. 12	58.37	
14	58.38	
20	58.36	
27	58.25	
Oct. 1	58.27	
29	58.39	
Nov. 25	58.27	

Weisse 155.

Sept. 15	22 9 59.70	

ρ Aquarii.

Aug. 7	22 13 21.45	

(*) — 22° 20′.

Sept. 27	22 13 51.67	9.2

O. Arg. S. 22087.

Sept. 23	22 13 59.23	8.5
27	59.27	9.0

O. Arg. S. 22092.

Sept. 23	22 14 25.96	6.0
27	26.01	6.8

O. Arg. S. 22102.

Oct. 16	22 15 27.26	

Weisse 303.

Sept. 15	22 15 53.63	

O. Arg. S. 22123.

Sept. 23	22 17 7.13	7.8
27	7.09	7.8

Weisse 331.

Oct. 2	22 17 12.57	

(*) — 11° 52′.

Oct. 6	22 17 14.98	

Weisse 346.

Oct. 2	22 17 36.66	

Weisse 360.

Sept. 15	22 17 52.54	
29	52.48	
Oct. 2	52.45	

(*) + 3° 6′.

Sept. 15	22 18 25.15	

O. Arg. S. 22132.

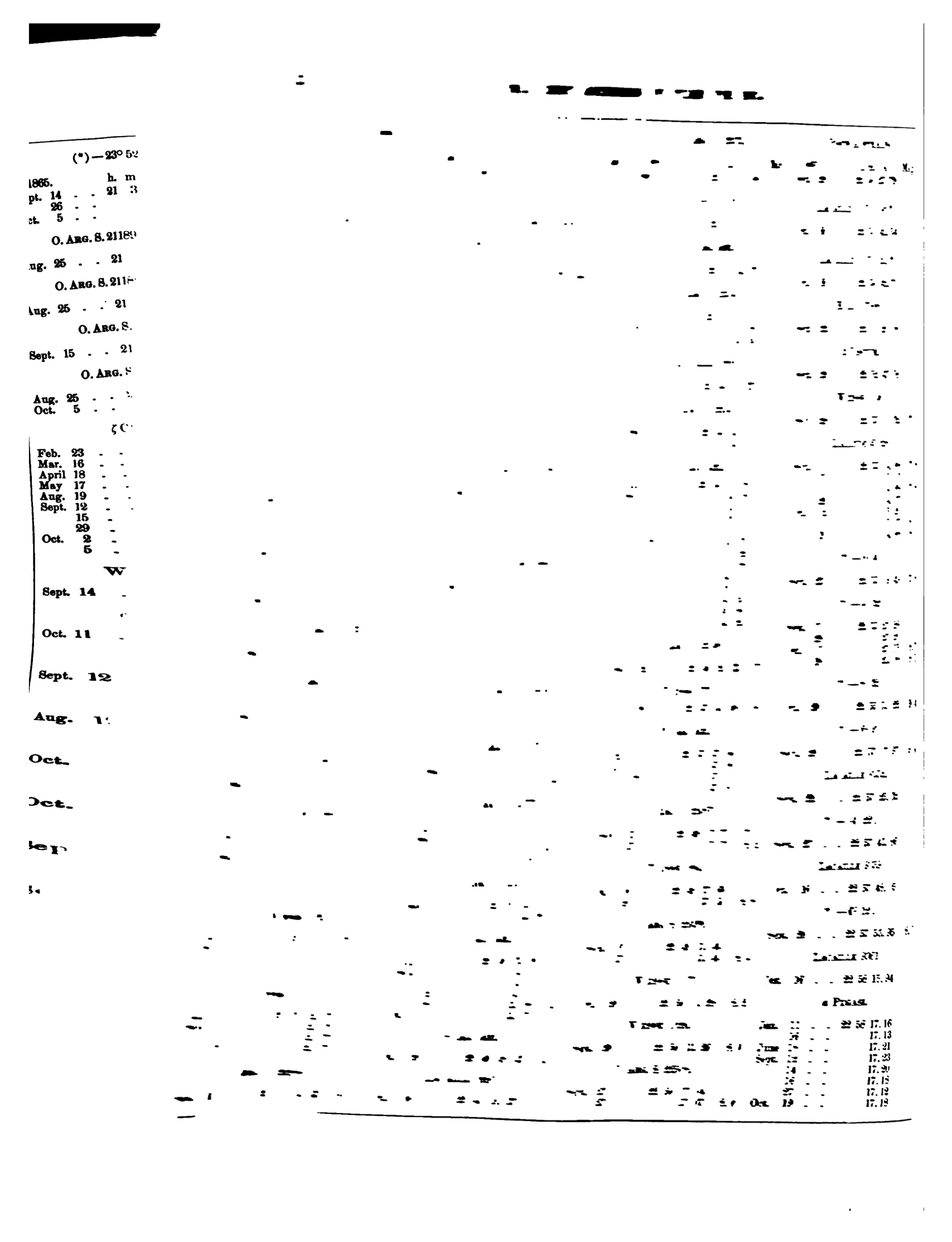
Sept. 23	22 18 29.03	8.2
27	29.07	8.2

π Aquarii.

Sept. 28	22 18 38.25	
Oct. 6	38.24	
30	38.23	

O. Arg. S. 22165.

Sept. 27	22 20 54.76	8.2



h^1 AQUARII.

	h. m. s.	Mag.
. .	22 58 21.90	6.0

h^2 AQUARII.

	h. m. s.	Mag.
. .	22 58 31.55	7.0

WEISSE 1223.

	h. m. s.	Mag.
. .	22 58 44.68	8.7
. .	44.84	
. .	44.72	8.5
. .	44.89	
. .	44.74	9.0

(*) — 8° 24′.

	h. m. s.	Mag.
. .	22 59 6.06	9.2

WEISSE 1248.

	h. m. s.	Mag.
. .	22 59 57.94	
. .	57.77	8.7
. .	58.02	
. .	57.84	9.0
. .	57.97	
. .	57.91	9.0

LACAILLE 9376.

	h. m. s.	Mag.
. .	23 1 18.83	

c^3 AQUARII.

	h. m. s.	Mag.
. .	23 2 30.69	5.0

LACAILLE 9385.

	h. m. s.	Mag.
. .	23 3 10.27	

LALANDE 45326.

	h. m. s.	Mag.
. .	23 3 30.84	7.5

O. ARG. S. 22656.

	h. m. s.	Mag.
. .	23 4 12.41	

O. ARG. S. 22657.

	h. m. s.	Mag.
. .	23 4 14.13	

O. ARG. S. 22666.

	h. m. s.	Mag.
. .	23 5 31.66	9.0

O. ARG. S. 22670.

	h. m. s.	Mag.
. .	23 5 42.73	9.0

WEISSE 95.

	h. m. s.	Mag.
. .	23 6 57.23	

(*) — 20° 27′.

	h. m. s.	Mag.
. .	23 7 14.18	6.5
. .	14.09	8.0
. .	14.16	7.0
. .	14.31	
. .	14.32	7.5
. .	14.06	7.5
. .	14.22	
. .	14.13	6.7
. .	14.12	6.5

WEISSE 112.

	h. m. s.	Mag.
. .	23 7 26.39	8.8

ϕ AQUARII.

	h. m. s.	Mag.
. .	23 7 35.33	

LACAILLE 9407.

1865.	h. m. s.	Mag.
Oct. 16 . .	23 7 45.70	

LACAILLE 9425.

	h. m. s.	Mag.
Oct. 9 . .	23 9 34.98	
19 . .	34.80	6.0

γ PISCIUM.

	h. m. s.	Mag.
June 18 . .	23 10 25.57	
Aug. 9 . .	25.59	
15 . .	25.60	
19 . .	25.60	
24 . .	25.69	
26 . .	25.56	
29 . .	25.65	
30 . .	25.56	
Sept. 1 . .	25.53	
12 . .	25.51	
14 . .	25.63	
16 . .	25.61	
19 . .	25.51	
20 . .	25.56	
23 . .	25.58	
26 . .	25.59	
Oct. 2 . .	25.60	
5 . .	25.65	
7 . .	25.62	
Nov. 26 . .	25.54	
27 . .	25.49	

LACAILLE 9432.

	h. m. s.	Mag.
Oct. 16 . .	23 10 59.08	

LACAILLE 9436.

	h. m. s.	Mag.
Oct. 9 . .	23 11 54.95	
19 . .	54.68	6.5

LACAILLE 9443.

	h. m. s.	Mag.
Oct. 16 . .	23 12 36.48	

WEISSE 242.

	h. m. s.	Mag.
Sept. 1 . .	23 13 3.68	

WEISSE 246.

	h. m. s.	Mag.
Sept. 1 . .	23 13 22.62	

O. ARG. S. 22766.

	h. m. s.	Mag.
Sept. 19 . .	23 13 34.81	8.5
Oct. 5 . .	34.90	8.5
19 . .	34.83	8.0

b PISCIUM.

	h. m. s.	Mag.
Oct. 7 . .	23 13 43.46	4.0

B. A. C. 8134.

	h. m. s.	Mag.
Sept. 6 . .	23 14 39.48	

LALANDE 45758.

	h. m. s.	Mag.
Aug. 26 . .	23 15 42.00	8.0

97 AQUARII.

	h. m. s.	Mag.
Sept. 20 . .	23 15 50.20	7.0

B. A. C. 8145.

	h. m. s.	Mag.
Oct. 16 . .	23 16 11.99	

B. A. C. 8155.

	h. m. s.	Mag.
Aug. 31 . .	23 17 12.90	
Oct. 9 . .	13.02	

RADCLIFFE 6064.

1865.	h. m. s.	Mag.
Aug. 28 . .	23 18 18.23	8.0

RADCLIFFE 6067.

	h. m. s.	Mag.
Aug. 15 . .	23 18 57.07	
28 . .	57.01	7.8
Sept. 1 . .	57.08	
15 . .	56.80	

(*) + 54° 20′.

	h. m. s.	Mag.
Aug. 28 . .	23 20 1.05	8.2
Sept. 1 . .	1.06	
15 . .	0.72	

WEISSE 386.

	h. m. s.	Mag.
Oct. 5 . .	23 20 9.48	9.2
9 . .	9.54	
16 . .	9.69	

(*) + 54° 19′.

	h. m. s.	Mag.
Sept. 1 . .	23 20 10.29	

κ PISCIUM.

	h. m. s.	Mag.
July 13 . .	23 20 16.05	
Aug. 9 . .	16.16	
Sept. 5 . .	16.04	
Oct. 16 . .	16.02	
19 . .	16.06	5.0
Nov. 26 . .	16.10	
27 . .	16.15	

(*) + 54° 5′.

	h. m. s.	Mag.
Sept. 20 . .	23 20 31.33	7.8

(*) + 54° 11′.

	h. m. s.	Mag.
Sept. 27 . .	23 20 35.63	8.2

(*) + 54° 5′.

	h. m. s.	Mag.
Sept. 27 . .	23 20 38.89	7.8

(*) + 54° 19′.

	h. m. s.	Mag.
Sept. 11 . .	23 20 50.14	

(*) + 54° 5′.

	h. m. s.	Mag.
Sept. 27 . .	23 20 50.76	7.8

RADCLIFFE 6081.

	h. m. s.	Mag.
Sept. 15 . .	23 21 6.94	
19 . .	7.17	8.0
27 . .	7.42	
Oct. 7 . .	7.54	

θ PISCIUM.

	h. m. s.	Mag.
June 18 . .	23 21 22.52	
26 . .	22.37	
Aug. 26 . .	22.37	
31 . .	22.43	
Sept. 6 . .	22.41	
Nov. 18 . .	22.47	
26 . .	22.41	
27 . .	22.42	

(*) + 54° 5′.

	h. m. s.	Mag.
Sept. 20 . .	23 22 15.54	8.4

(*) + 54° 10′.

	h. m. s.	Mag.
Sept. 27 . .	23 22 26.35	
Oct. 7 . .	26.60	9.2

(*) + 54° 0′.

	h. m. s.	Mag.
Sept. 20 . .	23 22 29.47	

(*) + 54° 5′.

1865.	h. m. s.	Mag.
Sept. 20 . .	23 22 30.81	8.4

B. A. C. 8184.

	h. m. s.	Mag.
July 13 . .	23 22 48.74	
Aug. 24 . .	48.86	6.0
Sept. 5 . .	48.68	

LACAILLE 9497.

	h. m. s.	Mag.
Oct. 19 . .	23 23 25.46	7.0

(*) — 37° 17′.

	h. m. s.	Mag.
Oct. 9 . .	23 24 37.34	

LACAILLE 9507.

	h. m. s.	Mag.
Oct. 16 . .	23 24 50.73	

b^4 AQUARII.

	h. m. s.	Mag.
Sept. 20 . .	23 26 28.30	5.5

LACAILLE 9519.

	h. m. s.	Mag.
Oct. 9 . .	23 27 9.63	
19 . .	9.42	6.0

14 PISCIUM.

	h. m. s.	Mag.
Sept. 6 . .	23 27 27.99	
16 . .	27.97	

O. ARG. S. 22911.

	h. m. s.	Mag.
Sept. 19 . .	23 27 49.04	8.3

B. A. C. 8213.

	h. m. s.	Mag.
July 13 . .	23 27 48.35	
Oct. 5 . .	51.11	

LACAILLE 9524.

	h. m. s.	Mag.
Aug. 24 . .	23 27 59.10	7.0

LACAILLE 9527.

	h. m. s.	Mag.
Oct. 9 . .	23 28 48.43	
19 . .	48.31	6.0

LACAILLE 9532.

	h. m. s.	Mag.
Sept. 16 . .	23 29 51.41	

LACAILLE 9539.

	h. m. s.	Mag.
Oct. 9 . .	23 31 2.54	

LACAILLE 9540.

	h. m. s.	Mag.
Oct. 7 . .	23 31 5.62	
16 . .	6.10	

LACAILLE 9542.

	h. m. s.	Mag.
Oct. 7 . .	23 31 58.63	

LACAILLE 9548.

	h. m. s.	Mag.
Sept. 16 . .	23 32 54.15	

i PISCIUM.

	h. m. s.	Mag.
Aug. 7 . .	23 33 15.88	
9 . .	15.87	
15 . .	15.90	
25 . .	15.95	
28 . .	15.90	
Sept. 6 . .	15.91	
11 . .	15.92	

ι Piscium—Continued.

1865.	h. m. s.	Mag.
Sept. 15	23 33 15.94	
20	15.90	
23	15.91	
27	15.91	
29	15.90	
Oct. 2	15.90	
16	15.91	
19	15.90	
30	15.87	
Nov. 18	15.89	

γ Cephei.

Aug. 24	23 34 2.44	

Lacaille 9554.

Oct. 7	23 34 7.67	

O. Arg. S. 22993.

July 13	23 34 60.06	7.5
Sept. 19	59.98	8.5
Oct. 5	59.95	7.7

λ Piscium.

Aug. 9	23 35 24.83	

Lacaille 9576.

Oct. 19	23 37 2.52	

Lacaille 9578.

Oct. 16	23 37 18.76	

O. Arg. S. 23022.

Oct. 9	23 37 42.96	

B. A. C. 8260.

Oct. 16	23 39 38.85	

19 Piscium.

July 13	23 39 44.97	
Aug. 9	44.96	
Sept. 5	44.98	
6	44.95	

Lalande 46609.

1865.	h. m. s.	Mag.
July 13	23 40 58.21	7.0
Aug. 24	58.38	7.5
Sept. 11	58.31	
29	58.20	

Weisse 845.

Aug. 25	23 42	1.95	9.5
Sept. 29		1.85	

Weisse 848.

July 13	23 42	4.64	8.0
Aug. 24		4.81	8.0
Sept. 5		4.68	

δ Sculptoris.

Sept. 19	23 42	9.01
Oct. 5		8.93
9		9.02
Nov. 6		9.10

21 Piscium.

Aug. 25	23 42	48.08
Sept. 11		48.14
29		48.07

Lacaille 9610.

Oct. 9	23 43	5.37

Weisse 895.

Sept. 29	23 45	4.66	
Oct. 2		4.65	
5		4.68	8.2

Weisse 936.

Sept. 19	23 46	43.85	9.5
Oct. 5		43.92	9.0

(*) — 5° 46′.

Oct. 2	23 47	34.33

O. Arg. S. 23120.

1865.	h. m. s.	Mag.
Aug. 25	23 47 56.65	
Sept. 11	56.67	

26 Piscium.

July 13	23 48 28.74	

O. Arg. S. 23126.

Aug. 25	23 49 5.77	
Sept. 11	5.73	

(*) — 3° 20′.

Aug. 19	23 49	6.95	
26		7.11	9.0
Sept. 19		7 01	9 0

(*) + 0° 28′.

Sept. 5	23 49	13.77

Weisse 1002.

Sept. 29	23 49	52.83

Lacaille 9663.

Oct. 2	23 50	54.89	6.0

ω Piscium

July 26	23 52	38.20	
28		38.25	
Aug. 9		38.14	
19		38.20	
28		38.16	
Sept. 5		38.29	
11		38.23	
Oct. 30		38.21	
Nov. 27		38.15	

O. Arg. S. 23166.

Oct. 5	23 52	42.93	7.0

(*) + 6° 7′.

Nov. 27	23 52	55.97	9.0

Weisse 1099.

1865.	h. m. s.
July 28	23 54 [illegible]
Aug. 24	[illegible]
25	[illegible]
Sept. 1	[illegible]
11	[illegible]
19	[illegible]

c^2 Piscium.

July 13	23 55 51.[illegible]	

O. Arg. S. 23205.

Oct. 5	23 56 16.[illegible]	
21	16.[illegible]	

(*) + 1° 34′.

Aug. 19	23 57 50.[illegible]	
24	50.[illegible]	
28	50.[illegible]	
Sept. 11	50.[illegible]	
29	50.[illegible]	

Weisse 1183.

July 28	23 58 21.[illegible]	
Aug. 25	21.[illegible]	
Oct. 2	21.[illegible]	

Weisse 1186.

Aug. 19	23 58 30.[illegible]	
24	30.[illegible]	
28	30.[illegible]	
Sept. 1	30.[illegible]	
5	30.[illegible]	
19	30.[illegible]	

Weisse 1201.

July 28	23 59 35.[illegible]	
Sept. 29	35.[illegible]	

Weisse 1209.

Aug. 25	23 59 39.[illegible]	
Oct. 2	39.[illegible]	

MEAN DECLINATIONS FOR 1870.0

OF

STARS OBSERVED

WITH THE

MURAL CIRCLE,

1865.

ε PISCIUM—Conti.

1865.			h. m.
Sept.	15	- -	23 33
	20	- -	
	23	- -	
	27	- -	
	29	- -	
Oct.	2	- -	
	16	- -	
	19	- -	
	30	- -	
Nov.	18	- -	

γ CEPHI

Aug.	24	- -	23

LACAILLE

Oct.	7	- -	23

O. ARG. S

July	13	- -	2
Sept.	19	- -	
Oct.	5	- -	

λ PI

Aug.	9	- -	

LACA

Oct.	19	- -	

LAC

Oct.	16	-	

O. A

Oct.	9	-	

P

Oct.	16	-	

July	13
Aug.	9
Sept.	5
	6

MEAN DECLINATIONS FOR 1870.0,

MURAL CIRCLE.

. ARG. N. 26423, 0h. 1m. 21s.

				°	′	″
ıst	25	.	.	+53	4	29.2
ıber	1	.	.			29.4
·ber	13	.	.			28.2:

SANTINI 1, 0h. 1m. 38s.

·ist	12	.	.	+ 2	43	6.3
	19	.	.			6.6

a ANDROMEDÆ, 0h. 1m. 39s.

·ber	7	.	.	+28	22	23.4
	10	.	.			23.4
·ember	6	.	.			25.0

a ANDROMEDÆ, (Ref.)

·tember	6	.	.	+28	22	22.6
	26	.	.			21.9
tober	7	.	.			23.8
	10	.	.			22.8
·vember	6	.	.			23.0

O. ARG. N. 14, 0h. 1m. 58s.

·ugust	25	.	.	+53	5	24.0
ptember	1	.	.			24.5

LACAILLE 9737, 0h. 2m. 9s.

·ovember	24	.	.	−35	31	5.9
)ecember	1	.	.			7.5

WEISSE O, 41, 0h. 3m. 51s.

November	10	.	.	−10	0	48.6
	27	.	.			50.3

B. A. C. 23, 0h. 4m. 57s.

December	1	.	.	−28	31	26.2
	14	.	.			21.8

γ PEGASI, (Ref.) 0h. 6m. 29s.

September	28	.	.	+14	27	39.7:
October	25	.	.			38.5

B. A. C. 27, 0h. 6m. 39s.

November	24	.	.	−38	32	45.6
	27	.	.			46.5

LALANDE 130, 0h. 6m. 58s.

August	19	.	.	+ 5	51	28.7
September	23	.	.			25.8

WEISSE O, 102, 0h. 7m. 24s.

October	12	.	.	−12	1	37.0

35 PISCIUM, (S. *) 0h. 8m. 18s.

November	10	.	.	+ 8	5	49.2

35 PISCIUM, (N. *) 0h. 8m. 18s.

November	10	.	.	+ 8	5	59.3
December	1	.	.			57.8

LACAILLE 26, 0h. 9m. 59s.

November	24	.	.	−33	28	57.0
	27	.	.			57.9

B. A. C. 49, 0h. 10m. 9s.

November	24	.	.	−33	24	39.4
	25	.	.			34.9
	27	.	.			36.3

B. A. C. 59, 0h. 11m. 47s.

October	2	.	.	−37	13	54.9
	10	.	.			55.9

WEISSE O, 196, 0h. 12m. 39s.

November	8	.	.	+ 2	21	9.5
December	1	.	.			9.7

WEISSE O, 212, 0h. 13m. 29.

November	8	.	.	+ 2	18	44.1
December	1	.	.			44.9

LACAILLE 46, 0h. 13m. 42s.

December	14	.	.	−36	37	24.6

LACAILLE 49, 0h. 14m. 24s.

November	10	.	.	−30	24	27.0
	24	.	.			30.0

ι SCULPTORIS, 0h. 14m. 59s.

November	27	.	.	−29	42	1.5

WEISSE O, 247, 0h. 15m. 18s.

August	19	.	.	+ 6	17	28.8
	25	.	.			26.8

WEISSE O, 261, 0h. 16m. 14s.

October	12	.	.	−12	55	57.3

WEISSE O, 287, 0h. 17m. 54s.

November	7	.	.	+ 2	39	19.1
	13	.	.			17.4:

45 PISCIUM, 0h. 19m. 1s.

September	19	.	.	+ 6	58	24.1
	23	.	.			22.1

LACAILLE 82, 0h. 19m. 10s.

November	10	.	.	−22	21	4.3
	24	.	.			5.4

LACAILLE 86, 0h. 19m. 43s.

November	24	.	.	−22	23	31.0

a PHŒNICIS, 0h. 19m. 50s.

November	27	.	.	−43	0	41.2

WEISSE O, 358, 0h. 22m. 41s.

November	7	.	.	+ 7	23	56.2
	10	.	.			57.2

12 CETI, 0h. 23m. 24s.

November	8	.	.	− 4	40	32.4

GROOMBRIDGE 67, 0h. 23m. 48s.

November	13	.	.	+85	36	5.4:
	27	.	.			2.8

LACAILLE 121, 0h. 26m. 11s.

November	7	.	.	−26	4	30.2
December	14	.	.			30.7

LACAILLE 122, 0h. 26m. 37s.

October	10	.	.	−26	48	31.7
	12	.	.			31.8

B. A. C. 138, 0h. 27m. 51s.

August	19	.	.	− 5	15	48.4
	25	.	.			49.3
September	19	.	.			48.5
October	2	.	.			48.4

SCHJELLERUP 213, 0h. 31m. 21s.

October	24	.	.	+ 2	2	54.0

ANONYMOUS, 0h. 38m. 14s.

July	25	.	.	+ 2	29	20.0
	28	.	.			22.7
August	7	.	.			22.0
	12	.	.			20.5
	19	.	.			20.2
	23	.	.			21.3
	24	.	.			23.5
	25	.	.			20.4
	26	.	.			18.6
	29	.	.			23.1
September	1	.	.			20.5
	6	.	.			21.0
	11	.	.			22.0
	12	.	.			21.8
	14	.	.			21.2

ANONYMOUS, 0h. 38m. 14s.—Contin'd.

				°	′	″
September	15	.	.	+ 2	29	20.8
	16	.	.			22.7
	19	.	.			23.3
	23	.	.			19.8
	26	.	.			23.7
	28	.	.			21.3
October	2	.	.			22.3
	5	.	.			22.1
	7	.	.			20.5
	12	.	.			21.6
	16	.	.			23.3:
	20	.	.			21.0
	21	.	.			21.8:
	25	.	.			22.0
	28	.	.			21.2
November	1	.	.			21.8
	6	.	.			22.8
	7	.	.			23.2
	8	.	.			20.6
	9	.	.			20.4
	10	.	.			22.6
	13	.	.			21.1:
	14	.	.			20.9
	24	.	.			23.1
	25	.	.			21.4
	27	.	.			20.4
December	1	.	.			21.9
	8	.	.			21.6
	14	.	.			22.6
	15	.	.			23.8
	22	.	.			22.9

O. ARG. S. 423, 0h. 41m. 14s.

October	20	.	.	−18	46	21.0
	25	.	.			22.2
November	6	.	.			21.6

WEISSE O, 726, 0h. 42m. 52s.

November	10	.	.	+ 4	13	8.6

(* 138) W., 0h. 43m. 2s.

November	13	.	.	+ 3	34	32.4:
	24	.	.			32.7
	27	.	.			32.9
December	15	.	.			35.1:

RUMKER, N. F., 329, 0h. 43m. 4s.

August	24	.	.	+10	2	47.8

SANTINI 46, 0h. 44m. 37s.

December	22	.	.	+ 2	40	48.9

RUMKER, N. F., 354, 0h. 45m. 19s.

August	24	.	.	+ 9	53	40.9

WEISSE O, 786, 0h. 45m. 57s.

September	13	.	.	+10	12	25.5

WEISSE O, 787, 0h. 45m. 57s.

				°	′	″
December	8	.	.	+ 5	57	32.0:

WEISSE O, 800, 0h. 46m. 38s.

				°	′	″
November	10	.	.	+ 4	17	57.9

WEISSE O, 804, 0h. 46m. 52s.

				°	′	″
November	27	.	.	+ 5	16	48.3

WEISSE O, 807, 0h. 47m. 3s.

				°	′	″
August	19	.	.	+10	25	2.2

O. ARG. S. 492, 0h. 47m. 33s.

				°	′	″
September	16	.	.	− 18	42	28.5
October	20	.	.			26.2

O. ARG. S. 498, 0h. 47m. 40s.

				°	′	″
September	16	.	.	−18	43	59.6
October	20	.	.			62.8

WEISSE O, 829, 0h. 48m. 35s.

				°	′	″
November	8	.	.	+ 6	8	55.9
December	15	.	.			58.3
	22	.	.			58.1

WEISSE O, 836, 0h. 49m. 6s.

				°	′	″
September	14	.	.	− 4	41	50.4
October	5	.	.			53.6
	7	.	.			52.4

WEISSE O, 845, 0h. 49m. 26s.

				°	′	″
September	23	.	.	− 4	26	34.5
	26	.	.			31.4
October	10	.	.			31.7

LACAILLE 256, 0h. 49m. 36s.

				°	′	″
November	27	.	.	−28	28	50.1

WEISSE O, 878, 0h. 51m. 13s.

				°	′	″
November	8	.	.	+ 6	54	29.3
	10	.	.			31.0

WEISSE O, 891, 0h. 52m. 15s.

				°	′	″
October	20	.	.	+ 7	1	2.9
	25	.	.			3.9
November	27	.	.			1.1

WEISSE O, 925, 0h. 53m. 55s.

				°	′	″
November	6	.	.	+ 8	0	4.8:
December	8	.	.			4.8
	15	.	.			4.4

PIAZZI O, 256, 0h. 54m. 26s.

				°	′	″
November	8	.	.	+ 7	20	4.5
	13	.	.			4.5:

WEISSE O, 935, 0h. 54m. 27s.

				°	′	″
September	14	.	.	− 5	20	48.1
October	10	.	.			49.0
	12	.	.			48.5

SANTINI 58, 0h. 55m. 56s

				°	′	″
October	16	.	.	+ 8	26	6.6
November	27	.	.			3.1
December	22	.	.			6.7

ε PISCIUM, (Ref.) 0h. 56m. 9s.

				°	′	″
October	5	.	.	+ 7	11	23.8

25 CETI, 0h. 56m. 29s.

				°	′	″
September	19	.	.	− 5	31	54.2
October	7	.	.			53.4
November	10	.	.			53.9

WEISSE O, 997, 0h. 57m. 53s.

				°	′	″
October	25	.	.	+ 8	53	19.8
November	13	.	.			18.3:

LACAILLE 301, 0h. 59m. 21s.

				°	′	″
December	14	.	.	−27	38	57.2

WEISSE O, 1034, 0h. 59m. 39s.

				°	′	″
October	16	.	.	+ 9	13	11.5
December	15	.	.			9.6

WEISSE O, 1041, 0h. 59m. 47s.

				°	′	″
September	26	.	.	− 1	26	37.6
October	12	.	.			39.2

LACAILLE 303, 0h. 59m. 51s.

				°	′	″
November	11	.	.	−24	41	13.5

WEISSE O, 1054, 1h. 0m. 27s.

				°	′	″
September	26	.	.	− 1	17	11.2
October	12	.	.			8.1

LACAILLE 310, 1h. 0m. 55s.

				°	′	″
November	11	.	.	−24	41	25.4

SANTINI 64, 1h. 1m. 34s.

				°	′	″
October	16	.	.	+ 9	12	50.8
December	15	.	.			49.5

WEISSE I, 13, 1h. 3m. 11s.

				°	′	″
September	14	.	.	+11	58	50.0

WEISSE I, 20, 1h. 3m. 33s.

				°	′	″
November	27	.	.	+ 2	18	26.7

WEISSE I, 22, 1h. 3m. 48s.

				°	′	″
October	10	.	.	+10	27	18.6
November	8	.	.			17.7
December	22	.	.			18.2

O. ARG. S. 665, 1h. 3m. 49s.

				°	′	″
December	14	.	.	−26	53	9.5

WEISSE I, 39, 1h. 4m. 40s.

				°	′	″
November	6	.	.	+ 9	36	0.5
	10	.	.			2.0
December	8	.	.			0.2

WEISSE I, 55, 1h. 5m. 29s.

				°	′	″
October	5	.	.	+11	35	34.3
November	13	.	.			34.2:

ANONYMOUS, 1h. 5m. 35s.

				°	′	″
August	12	.	.	+12	20	53.3

WEISSE I, 62, 1h. 5m. 56s.

				°	′	″
October	12	.	.	+11	18	6.3
	20	.	.			4.6

WEISSE I, 66, 1h. 6m. 20s.

				°	′	″
October	10	.	.	+10	59	32.8
November	8	.	.			31.5

38 CETI, 1h. 8m. 12s.

				°	′	″
November	11	.	.	− 1	40	11.4

40 CETI, 1h. 10m. 21s.

				°	′	″
December	8	.	.	− 2	57	37.8:

POLARIS, 1h. 11m. 17s.

				°	′	″
February	20	.	.	+88	36	58.5
March	13	.	.			58.4
	17	.	.			58.6
	27	.	.			58.0
April	4	.	.			57.9
	13	.	.			59.4
	25	.	.			58.9
May	11	.	.			56.6
	14	.	.			58.3
	16	.	.			58.2
August	25	.	.			57.6
September	26	.	.			55.9
October	7	.	.			58.5
	10	.	.			58.1

POLARIS, (Ref.)

				°	′	″
October	7	.	.	+88	36	58.4
	10	.	.			58.0

POLARIS, S. P.

				°	′	″
March	13	.	.	+88	36	58.2
April	24	.	.			58.1
	26	.	.			57.5
	27	.	.			56.9
	28	.	.			57.8
May	1	.	.			58.9
	12	.	.			58.5
	15	.	.			57.3
	17	.	.			58.5
	23	.	.			58.0
	24	.	.			58.4
	29	.	.			58.0
June	1	.	.			57.8

POLARIS, S. P., (Ref.)

				°	′	″
May	16	.	.	+88	36	57.0
	17	.	.			57.2
	29	.	.			56.6
	30	.	.			58.0
June	1	.	.			57.5

LALANDE 2410, 1h. 13m. 45s.

				°	′	″
August	12	.	.	+12	47	6.2

WEISSE I, 201, 1h. 13m. 57s.

				°	′	″
October	5	.	.	+12	10	45.4:
	10	.	.			46.9
	12	.	.			44.1:

δ CASSIOPEÆ, 1h. 17m. 21s.

				°	′	″
December	8	.	.	+59	33	32.3

WEISSE I, 269, 1h. 17m. 37s.

				°	′	″
November	8	.	.	+ 5	48	19.5

WEISSE I, 288, 1h. 18m. 29s.

				°	′	″
November	11	.	.	− 6	37	24.5

ρ PISCIUM, 1h. 19m. 15s.

				°	′	″
November	10	.	.	+18	29	43.7

94 PISCIUM, 1h. 19m. 40s.

				°	′	″
November	10	.	.	+18	34	0.7

WEISSE I, 328, 1h. 20m. 34s.

				°	′	″
October	20	.	.	+ 6	17	16.6
November	6	.	.			15.5
	8	.	.			14.9

WEISSE I, 381, 1h. 23m. 21s.

				°	′	″
January	12	.	.	− 6	16	5.5
October	12	.	.			2.5

WEISSE I, 389, 1h. 23m. 50s.

				°	′	″
October	5	.	.	+ 0	41	18.1:
November	10	.	.			17.7

WEISSE I, 402, 1h. 24m. 35s.

				°	′	″
January	12	.	.	− 6	12	54.5
October	12	.	.			50.7

LACAILLE 435, 1h. 25m. 49s.

				°	′	″
December	8	.	.	−28	22	22.5

WEISSE I, 441, 1h. 26m. 32s.

				°	′	″
November	11	.	.	− 2	27	32.0

WEISSE 468, 1h. 28m. 5s.

				°	′	″
August	12	.	.	+14	36	16.7

LACAILLE 452, 1h. 28m. 15s.

				°	′	″
December	14	.	.	−28	1	48.0

WEISSE I, 508, 1h. 30m. 35s.

				°	′	″
December	8	.	.	+ 1	55	8.7

WEISSE I, 511, 1h. 31m. 38s.

				°	′	″
December	8	.	.	+ 1	55	26.6

WEISSE I, 578, 1h. 33m. 42s.

				°	′	″
August	11	.	.	+14	57	40.5

B. A. C. 527, 1h. 36m. 17s.

				°	′	″
December	14	.	.	−32	38	54.6

ANONYMOUS, 1h. 39m. 13s.

				°	′	″
October	20	.	.	+ 2	45	57.4

WEISSE I, 732, 1h. 41m. 39s.

				°	′	″
January	12	.	.	+13	24	50.6

LACAILLE 527, 1h. 42m. 36s.

				°	′	″
December	8	.	.	−26	54	6.7
	14	.	.			4.7
	23	.	.			5.4

WEISSE I, 820, 1h. 46m. 36s.

				°	′	″
November	8	.	.	+ 8	36	45.6

LACAILLE 569, 1h. 50m. 19s.

				°	′	″
December	23	.	.	−36	52	56.7

WEISSE I, 880, 1h. 50m. 33s.

				°	′	″
November	8	.	.	+ 9	15	7.5

58 CETI, 1h. 51m. 24s.

				°	′	″
November	9	.	.	− 2	41	38.6:

WEISSE I, 1022, 1h. 58m. 28s.

				°	′	″
November	8	.	.	+ 9	27	11.5

WEISSE I, 1045, 1h. 59m. 38s.

				°	′	″
January	12	.	.	+ 9	51	22.8

LACAILLE 638, 2h. 2m. 17s.

				°	′	″
December	14	.	.	−28	11	18.5
	23	.	.			22.4

O. ARG. S. 1489, 2h. 13m. 57s.

				°	′	″
December	23	.	.	−24	13	51.1

WEISSE II, 235, 2h. 16m. 3s.

				°	′	″
January	12	.	.	+ 7	57	6.9

LACAILLE 711, 2h. 16m. 17s.

				°	′	″
December	14	.	.	−28	27	16.2
	22	.	.			18.4

κ FORNACIS, 2h. 16m. 36s.

				°	′	″
December	23	.	.	−24	24	26.7

O. ARG. S. 1554, 2h. 19m. 58s.

				°	′	″
December	23	.	.	−24	25	46.3

B. A. C. 773, 2h. 23m. 58s.

				°	′	″
January	12	.	.	−23	15	51.1

B. A. C. 775, 2h. 24m. 36s.

				°	′	″
January	12	.	.	−23	7	22.9
December	23	.	.			19.9

LACAILLE 771, 2h. 26m. 7s.

				°	′	″
December	14	.	.	−23	39	35.2

WEISSE II, 437, 2h. 27m. 26s.

				°	′	″
December	8	.	.	− 6	34	43.8

LACAILLE 792, 2h. 29m. 33s.

				°	′	″
December	14	.	.	−29	15	(56.3)

δ CETI, 2h. 32m. 50s.

				°	′	″
January	11	.	.	− 0	14	0.1

LACAILLE 813, 2h. 33m. 9s.

				°	′	″
December	23	.	.	−26	18	15.1

B. A. C. 817, 2h. 33m. 25s.

				°	′	″
December	22	.	.	+ 5	33	7.2

WEISSE II, 580, 2h. 34m. 17s.

				°	′	″
December	22	.	.	+ 5	30	47.8

γ CETI, 2h. 36m. 34s.

				°	′	″
January	12	.	.	+ 2	41	12.5

LACAILLE 865, 2h. 40m. 25s.

				°	′	″
January	11	.	.	−25	52	49.2

41 ARIETIS, 2h. 42m. 19s.

				°	′	″
December	8	.	.	+26	43	23.8

γ FORNACIS, 2h. 44m. 5s.

				°	′	″
January	4	.	.	−25	5	43.4

LACAILLE 900, 2h. 45m. 44s.

				°	′	″
January	11	.	.	−30	58	18.8

WEISSE II, 841, 2h. 49m. 4s.

				°	′	″
December	22	.	.	+13	23	17.4

WEISSE II, 970, 2h. 55m. 45s.

				°	′	″
January	7	.	.	− 7	0	10.9
	12	.	.			10.7

WEISSE II, 1001, 2h. 57m. 51s.

				°	′	″
January	4	.	.	+12	9	8.4
	11	.	.			9.7

B. A. C. 978, 3h. 2m. 18s.

				°	′	″
December	14	.	.	−28	19	47.3

B. A. C. 987, 3h. 4m. 14s.

				°	′	″
January	4	.	.	+12	33	11.8
	11	.	.			12.0

WEISSE III, 56, 3h. 5m. 6s.

				°	′	″
December	26	.	.	+4	56	33.3:

12 ERIDANI, 3h. 6m. 33s.

				°	′	″
December	14	.	.	−29	30	23.1

ANONYMOUS, 3h. 7m. 56s.

				°	′	″
December	14	.	.	−29	22	30.9

WEISSE III, 139. 3h. 9m. 14s.

				°	′	″
January	4	.	.	+13	22	10.8
	11	.	.			10.7

WEISSE III, 145, 3h. 9m. 41s.

				°	′	″
December	22	.	.	+ 5	21	45.6:

WEISSE III, 168, 3h. 10m. 41s.

				°	′	″
January	4	.	.	+13	22	7.9

60 ARIETIS, 3h. 12m. 45s.

				°	′	″
January	12	.	.	+25	11	33.5
	14	.	.			34.5

WEISSE III, 251, 3h. 14m. 51s.

				°	′	″
January	7	.	.	+ 8	45	54.3

τ^2 ARIETIS, 3h. 15m. 18s.

				°	′	″
January	11	.	.	+20	16	32.2
	14	.	.			31.8

WEISSE III, 316, 3h. 18m. 58s.

				°	′	″
December	22	.	.	+ 7	2	19.3:

ANONYMOUS, 3h. 20m. 7s.

				°	′	″
December	14	.	.	−27	43	47.3

B. A. C. 1073, 3h. 20m. 54s.

				°	′	″
December	14	.	.	−27	46	28.5

LACAILLE 1113, 3h. 23m. 56s.

				°	′	″
January	4	.	.	−23	55	33.7
	14	.	.			32.3

LACAILLE 1137, 3h. 29m. 20s.

				°	′	″
December	14	.	.	−26	1	5.0

B. A. C. 1109, 3h. 29m. 22s.

				°	′	″
January	12	.	.	−32	18	37.9
	14	.	.			38.8:

O. ARG. S. 2388, 3h. 30m. 22s.

				°	′	″
January	4	.	.	−23	56	56.5

δ PERSEI, 3h. 33m. 40s.

				°	′	″
January	11	.	.	+47	22	9.9

δ PERSEI, (Ref.)

				°	′	″
January	11	.	.	+47	22	10.2

LACAILLE 1171, 3h. 34m. 32s.

				°	′	″
January	4	.	.	−28	55	46.3

17 TAURI, 3h. 37m. 11s.

				°	′	″
January	12	.	.	−23	42	7.0

WEISSE (2) III, 862, 3h. 39m. 40s.

				°	′	″
February	4	.	.	+28	59	17.1

η TAURI, 3h. 39m. 47s.

				°	′	″
January	7	.	.	+23	42	3.8
	12	.	.			5.2

27 TAURI, 3h. 41m. 27s.

				°	′	″
January	12	.	.	+23	39	10.9

28 TAURI, 3h. 41m. 29s.

				°	′	″
January	7	.	.	+23	44	14.0
	12	.	.			14.6

LACAILLE 1239, 3h. 43m. 33s.

				°	′	″
January	4	.	.	−26	25	51.1
December	23	.	.			48.3

LACAILLE 1284, 3h. 50m. 10s.

				°	′	″
January	4	.	.	−26	18	36.2

O. ARG. S. 2666, 3h. 50m. 22s.

				°	′	″
January	4	.	.	−26	19	30.1

LACAILLE 1291, 3h. 50m. 56s.

				°	′	″
November	27	.	.	−30	2	18.9

ANONYMOUS, 3h. 51m. 14s.

				°	′	″
January	11	.	.	−18	55	51.9

γ^1 ERIDANI, 3h. 52m. 0s.

				°	′	″
January	16	.	.	−13	52	45.3:

τ^9 ERIDANI, 3h. 54m. 23s.

				°	′	″
November	27	.	.	−24	23	11.9
December	23	.	.			10.8

B. A. C. 1273, 4h. 0m. 16s.

				°	′	″
December	23	.	.	−28	0	31.5

O. ARG. S. 2848, 4h. 3m. 31s.

				°	′	″
January	4	.	.	−25	21	44.7

LACAILLE 1370, 4h. 4m. 32s.

				°	′	″
January	4	.	.	−25	23	3.9
December	23	.	.			2.1

WEISSE (2) IV, 65, 4h. 5m. 11s.

				°	′	″
February	14	.	.	+17	29	52.0

o^1 ERIDANI, 4h. 5m. 30s.

				°	′	″
November	27	.	.	− 7	10	41.6

ANONYMOUS, 4h. 8m. 10s.

				°	′	″
January	14	.	.	−31	36	53.2

ω^2 TAURI, 4h. 9m. 41s.

				°	′	″
January	11	.	.	+20	15	24.6
	12	.	.			22.1

WEISSE (2) IV, 183, 4h. 10m. 28s.

				°	′	″
November	27	.	.	+17	56	8.1

γ TAURI, 4h. 12m. 25s.

				°	′	″
January	16	.	.	+15	18	43.4:

B. A. C. 1334, 4h. 13m. 6s.

				°	′	″
January	14	.	.	−23	17	18.8
November	27	.	.			20.9

B. A. C. 1355, 4h. 16m. 7s.

				°	′	″
December	23	.	.	−26	2	7.2

O. ARG. S. 3022, 4h. 16m. 11s.

				°	′	″
December	23	.	.	−26	1	31.5

WEISSE (2) IV, 326, 4h. 16m. 19s.

				°	′	″
November	27	.	.	+21	14	8.5

LACAILLE 1431, 4h. 17m. 42s.

				°	′	″
January	11	.	.	−25	11	46.3
	14	.	.			45.5

ϵ TAURI, 4h. 21m. 2s.

				°	′	″
December	22	.	.	+18	53	25.7

O. ARG. S. 3108, 4h. 22m. 45s.

				°	′	″
February	2	.	.	−23	23	33.8

ANONYMOUS, 4h. 23m. 19s.

				°	′	″
November	27	.	.	−26	34	55.6

LACAILLE 1474, 4h. 24m. 15s.

				°	′	″
November	27	.	.	−26	33	46.2

WEISSE (2) 512, 4h. 24m. 29s.

				°	′	″
February	14	.	.	+24	54	18.1

LACAILLE 1483, 4h. 25m. 4s.

				°	′	″
December	22	.	.	−23	18	24.7
	23	.	.			25.7

α TAURI, 4h. 28m. 28s.

				°	′	″
January	11	.	.	+16	14	46.2
	16	.	.			46.2:

α TAURI, (Ref.)

		° ′ ″
January	11	+16 14 45.3
	16	45.7:

WEISSE IV, 620, 4h. 29m. 28s.

February	4	+25 27 41.0
November	27	42.2

LACAILLE 1521, 4h. 29m. 32s.

December	23	−25 18 26.8

WEISSE (2) IV, 713, 4h. 33m. 35s.

November	27	+22 25 21.9

LACAILLE 1540, 4h. 33m. 37s.

January	25	−25 57 47.7

WEISSE (2) IV, 719, 4h. 33m. 55s.

November	27	+22 22 23.4

54 ERIDANI, 4h. 34m. 47s.

December	22	−19 55 19.2
	23	20.5

WEISSE IV, 754, 4h. 35m. 24s.

January	12	+ 2 44 23.6

μ ERIDANI, 4h. 39m. 1s.

January	4	− 3 29 41.5

B. A. C. 1471, 4h. 39m. 3s.

December	22	−27 49 7.8

LACAILLE 1570, 4h. 39m. 18s.

December	23	−28 11 26.4

B. A. C. 1482, 4h. 41m. 15s.

January	26	−28 19 26.1
December	23	27.3

LACAILLE 1590, 4h. 41m. 54s.

January	25	−29 38 31.8

WEISSE IV, 926, 4h. 44m. 0s.

February	4	+10 50 39.0

WEISSE IV, 1047, 4h. 47m. 50s.

February	13	+27 37 38.1

WEISSE IV, 1028, 4h. 47m. 53s.

February	14	+ 8 23 12.1

ι AURIGÆ, (Ref.,) 4h. 48m. 34s.

January	16	+32 57 28.6:

β CAMELOPARDI, S. P., 4h. 51m. 52s.

July	17	+60 14 50.6

LACAILLE 1675, 4h. 54m. 27s.

January	26	−32 26 11.8

WEISSE (2) IV, 1257, 4h. 56m. 15s.

January	12	+30 13 6.3

WEISSE (2) IV, 1258, 4h. 56m. 17s.

January	12	+30 11 37.7

WEISSE (2) IV, 1261, 4h. 56m. 34s.

January	11	+27 30 45.4

O. ARG. S. 3662, 5h. 0m. 55s.

December	28	−26 39 54.0

WEISSE V, 55, 5h. 4m. 53s.

February	14	+ 4 14 49.5

WEISSE (2) V, 111, 5h. 5m. 59s.

January	7	+30 14 35.2

α AURIGÆ, 5h. 7m. 6s.

January	16	+45 51 49.4:
	20	48.2

α AURIGÆ, (Ref.)

January	16	+45 51 45.3:
	20	46.6

β ORIONIS, 5h. 8m. 19s.

January	26	− 8 21 13.3

LACAILLE 1780, 5h. 10m. 38s.

January	12	−36 48 3.0
	30	1.4

B. A. C. 1641, 5h. 11m. 8s.

December	28	−35 4 24.1

(* 131) W., 5h. 12m. 44s.

February	21	+ 0 59 3.0

o COLUMBÆ, 5h. 12m. 48s.

December	28	−35 1 25.2

β TAURI, 5h. 18m. 6s.

January	16	+28 29 44.4:
	20	43.2

β TAURI, (Ref.)

January	16	+28 29 43.4:
	20	43.1

WEISSE (2) V, 478, 5h. 18m. 7s.

February	14	+21 0 50.1
	21	50.9

B. A. C. 1708, 5h. 21m. 2s.

January	7	−12 0 43.2
	26	40.9
	30	42.2

LACAILLE 1840, 5h. 21m. 10s.

December	28	−32 19 24.3

B. A. C. 1706, 5h. 22m. 25s.

January	20	+74 57 6.0

δ ORIONIS, 5h. 25m. 24s.

January	16	− 0 23 49.3:

α LEPORIS, 5h. 27m. 0s.

		° ′ ″
February	2	−17 54 63.8
December	28	58.1

RUMKER 1473, 5h. 27m. 41s.

February	14	+21 6 59.0

ANONYMOUS, 5h. 27m. 56s.

December	28	−17 52 34.2

STRUVE CAT. GEN. 599, 5h. 28m. 36s.

February	14	+21 6 3.5

θ^2 ORIONIS, 5h. 29m. 2s.

January	30	− 5 30 10.8

ε ORIONIS, 5h. 29m. 37s.

January	12	− 1 17 11.9
	20	15.0

O. ARG. N. 6031, 5h. 30m. 21s.

February	21	+68 48 1.1

B. A. C. 1775, 5h. 31m. 5s.

January	7	−28 47 27.1

B. A. C. 1787, 5h. 32m. 40s.

January	7	−28 46 9.9

α COLUMBÆ, 5h. 34m. 58.

December	28	−34 8 39.1

LACAILLE 1945, 5h. 35m. 54s.

January	14	−29 47 20.4

O. ARG. N. 6159, 5h. 37m. 6s.

March	4	+71 14 29.4

LACAILLE 1987, 5h. 41m. 51s.

December	28	−28 56 7.7

LACAILLE 1990, 5h. 42m. 1s.

December	28	−28 41 12.4

B. A. C. 1851, 5h. 42m. 55s.

January	14	+ 9 49 45.3

α ORIONIS, 5h. 48m. 9s.

February	1	+ 7 22 51.3
	24	50.8

WEISSE 1200, 5h. 48m. 11s.

January	14	− 4 5 28.5

O. ARG. N. 6362, 5h. 50m. 49s.

March	4	+72 36 6.2

ANONYMOUS, 5h. 54m. 23s.

January	25	+26 25 39.2
	30	37.3

ANONYMOUS, 5h. 55m. 18s.

February	4	+26 29 51.6

WEISSE (2) V, 1795, 5h. 55m. 28s.

		° ′ ″
January	30	+26 31 41.5
February	4	40.5

χ^3 ORIONIS, 5h. 55m. 47s.

February	1	+19 41 26.0

LACAILLE 2096, 5h. 55m. 57s.

January	7	−25 25 16.3

RUMKER 1700, 5h. 58m. 18s.

January	30	+26 32 3.1

ANONYMOUS, 6h. 2m. 47s.

December	23	+31 12 52.1

LACAILLE 2151, 6h. 2m. 59s.

January	26	−36 17 29.8

WEISSE (2) VI, 12, 6h. 3m. 17s.

December	23	+31 11 50.3

22 CAMELOPARDI, 6h. 4m. 30s.

January	20	+69 21 38.8

LACAILLE 2159, 6h. 4m. 36s.

February	1	−26 40 43.6

B. A. C. 1995, 6h. 5m. 26s.

January	12	−27 7 36.6

ANONYMOUS, 6h. 6m. 36s.

February	1	−26 42 12.1

η GEMINORUM, 6h. 7m. 4s.

February	24	+22 32 30.6

O. ARG. N. 6682, 6h. 9m. 26s.

March	4	+73 29 30.0

LACAILLE 2198, 6h. 9m. 30s.

January	7	−29 33 59.9

LACAILLE 2208, 6h. 11m. 52s.

February	21	−24 1 39.2

WEISSE (2) VI, 328, 6h. 13m. 25s.

December	14	+32 0 10.4

μ GEMINORUM, 6h. 15m. 8s.

January	20	+22 34 41.2
	25	43.3
February	24	40.2
	27	41.5

μ GEMINORUM, (Ref.)

January	20	+22 34 40.2

WEISSE (2) VI, 421, 6h. 16m. 46s.

January	12	+44 27 45.5

LACAILLE 2288, 6h. 22m. 54s.

January	7	−27 3 47.1
February	21	47.4

B. A. C. 2127, 6h. 25m. 39s.

				°	′	″
January	12	.	.	−27	40	50.0
February	1	.	.			49.1

LACAILLE 2323, 6h. 27m. 36s.

February	27	.	.	−27	18	44.0

γ GEMINORUM, 6h. 30m. 14s.

January	20	.	.	+16	30	28.6

γ GEMINORUM, (Ref.)

January	20	.	.	+16	30	28.2

WEISSE VI, 990, 6h. 33m. 22s.

February	21	.	.	−14	1	49.2

51 CEPHEI, 6h. 38m. 44s.

January	20	.	.	+87	14	22.9

α CANIS MAJORIS, 6h. 39m. 26s.

January	16	.	.	−16	32	16.3:
	20	.	.			16.6
	25	.	.			15.2
	26	.	.			16.4
	30	.	.			16.9
February	1	.	.			16.7
	6	.	.			15.6
	20	.	.			17.4
	21	.	.			17.5
	24	.	.			17.3
	27	.	.			17.3
March	6	.	.			17.5
	7	.	.			17.1
May	12	.	.			17.0
	15	.	.			16.4
	17	.	.			17.0
	25	.	.			16.2
June	3	.	.			16.6
	5	.	.			15.3
	8	.	.			17.0
July	27	.	.			17.1

ANONYMOUS, 6h. 41m. 0s.

January	4	.	.	+23	35	40.0

59 AURIGÆ, 6h. 44m. 7s.

February	20	.	.	+39	1	15.7

LACAILLE 2480, 6h. 45m. 27s.

February	28	.	.	−33	44	11.4

16 LYNCIS, 6h. 48m. 10s.

January	30	.	.	+45	15	36.0

O. ARG. S. 5864, 6h. 48m. 27s.

February	21	.	.	−24	4	12.6

LACAILLE 2496, 6h. 48m. 36s.

January	16	.	.	−24	22	39.4:

o^1 CANIS MAJORIS, 6h. 48m. 46s.

February	21	.	.	−24	1	23.5

LACAILLE 2558, 6h. 54m. 27s.

January	18	.	.	−27	42	47.7
February	6	.	.			46.8

O. ARG. S. 6022, 6h. 54m. 37s.

February	2	.	.	−28	13	14.8

22 CANIS MAJORIS, 6h. 56m. 32s.

				°	′	″
January	7	.	.	−27	45	1.8

44 GEMINORUM, 6h. 57m. 32s.

January	16	.	.	+22	49	49.4:
	30	.	.			47.6
February	20	.	.			49.4

(* 79) W., 7h. 1m. 58s.

February	21	.	.	+22	34	13.6
	28	.	.			13.5

O. ARG. S. 6270, 7h. 3m. 3s.

January	12	.	.	−23	52	22.6
	18	.	.			19.2

δ CANIS MAJORIS, 7h. 3m. 8s.

February	20	.	.	−26	11	16.3

LACAILLE 2634, 7h. 3m. 25s.

January	12	.	.	−23	50	15.2
	18	.	.			14.6

ANONYMOUS, 7h. 4m. 14s.

February	21	.	.	+22	29	32.2
	28	.	.			31.2

ANONYMOUS, 7h. 4m. 14s.

February	21	.	.	+22	29	39.4
	28	.	.			39.2

LACAILLE 2643, 7h. 4m. 53s.

January	26	.	.	−28	32	15.1

O. ARG. N. 7681, 7h. 8m. 49s.

March	11	.	.	+79	7	36.1

27 CANIS MAJORIS, 7h. 9m. 0s.

January	18	.	.	−26	7	46.9

B. A. C. 2383, 7h. 9m. 0s.

February	2	.	.	+26	55	17.1

ANONYMOUS, 7h. 10m. 53s.

February	4	.	.	−22	2	21.2

δ GEMINORUM, 7h. 12m. 22s.

January	16	.	.	+22	13	11.5:

O. ARG. N. 7755, 7h. 12m. 45s.

February	28	.	.	+78	56	48.3

B. A. C. 2420, 7h. 13m. 33s.

January	26	.	.	−30	33	45.4
February	20	.	.			45.8

WEISSE VII, 387, 7h. 14m. 4s.

January	18	.	.	+13	5	32.2

ANONYMOUS, 7h. 16m. 39s.

January	12	.	.	−35	40	22.5

LACAILLE 2767, 7h. 17m. 19s.

January	12	.	.	+35	35	10.0

O. ARG. S. 6728, 7h. 18m. 6s.

				°	′	″
February	2	.	.	−24	42	13.0
	6	.	.			16.4

LACAILLE 2792, 7h. 20m. 4s.

January	18	.	.	−24	57	42.5
February	20	.	.			42.7

B. A. C. 2320, 7h. 23m. 2s.

March	18	.	.	+89	0	14.7

LACAILLE 2824, 7h. 23m. 50s.

February	4	.	.	−37	32	31.9

ANONYMOUS, 7h. 24m. 39s.

February	6	.	.	−24	52	35.7

LACAILLE 2833, (1st *) 7h. 25m. 33s.

January	26	.	.	−27	49	26.6

LACAILLE 2833, (2d *) 7h. 25m. 33s.

January	26	.	.	−27	50	55.9

O. ARG. S. 7026, 7h. 27m. 51s.

January	18	.	.	−28	2	49.7

LACAILLE 2867, 7h. 30m. 12s.

January	18	.	.	−28	4	58.4

LACAILLE 2870, 7h. 31m. 9s.

February	6	.	.	−25	2	38.5

WEISSE (2) VII, 915, 7h. 32m. 1s.

February	28	.	.	+20	55	29.2

α CANIS MINORIS, 7h. 32m. 32s.

January	30	.	.	+ 5	33	28.7
February	1	.	.			28.3
March	4	.	.			29.0

m PUPPIS, 7h. 32m. 55s.

February	6	.	.	−25	4	12.6

WEISSE VII, 1022, 7h. 35m. 32s.

March	11	.	.	+21	15	40.5

B. A. C. 2544, 7h. 35m. 38s.

February	1	.	.	+22	42	14.1

β GEMINORUM, 7h. 37m. 22s.

January	12	.	.	+28	20	16.1

β GEMINORUM, (Ref.)

March	7	.	.	+28	20	16.7

LACAILLE 2923, 7h. 37m. 39s.

February	4	.	.	−26	5	12.3

LACAILLE 2929, 7h. 38m. 15s.

February	6	.	.	−25	11	41.9

o PUPPIS, 7h. 42m. 42s.

February	6	.	.	−25	36	57.4

ANONYMOUS, 7h. 43m. 1s.

				°	′	″
January	18	.	.	−25	26	3.2

ANONYMOUS, 7h. 44m. 1s.

January	18	.	.	−25	26	52.8

25 LYNCIS, 7h. 45m. 4s.

February	21	.	.	+47	43	10.8

φ GEMINORUM, 7h. 45m. 33s.

February	2	.	.	+27	6	2.1

LACAILLE 3012, 7h. 45m. 33s.

February	1	.	.	−24	11	51.8

(* 133) W., 7h. 49m. 48s.

March	7	.	.	+12	1	56.1

WEISSE VII, 1459, 7h. 50m. 0s.

March	11	.	.	+11	54	8.7
	23	.	.			7.7

O. ARG. N. 8459, 7h. 50m. 24s.

February	21	.	.	+46	58	13.3

B. A. C. 2651, 7h. 51m. 14s.

February	1	.	.	−29	56	20.7

B. A. C. 2655, 7h. 52m. 32s.

January	18	.	.	−29	59	9.5
February	1	.	.			10.7

O. ARG. N. 8531, 7h. 54m. 34s.

February	2	.	.	+58	8	17.9

WEISSE VII, 1624, 7h. 56m. 12s.

February	28	.	.	+11	42	38.7

LACAILLE 3127, 7h. 59m. 7s.

February	6	.	.	−25	19	54.9
March	27	.	.			56.1

ANONYMOUS, 7h. 59m. 15s.

January	12	.	.	− 5	19	8.2

12 CANCRI, 8h. 1m. 28s.

February	1	.	.	+14	1	3.7
March	6	.	.			2.7

CARRINGTON 1186, 8h. 3m. 36s.

February	28	.	.	+80	56	15.2

CARRINGTON 1187, 8h. 3m. 40s.

February	28	.	.	+80	54	23.1

ζ CANCRI, (S. *) 8h. 4m. 46s.

April	1	.	.	+18	2	12.1

ζ CANCRI, (N. *) 8h. 4m. 46s.

April	1	.	.	+18	2	16.4

WEISSE VIII, 83, 8h. 5m. 52s.

March	11	.	.	+20	40	16.8
	23	.	.			15.7

O. ARG. S. 8291, 8h. 10m. 33s.

			°	′	″
February	6	. .	−24	50	12.8
March	27	. .			13.3

LACAILLE 3229, 8h. 10m. 45s.

			°	′	″
January	26	. .	−29	47	37.5

WEISSE VIII, 221, 8h. 11m. 29s.

			°	′	″
March	23	. .	+20	22	46.4

LACAILLE 3241, 8h. 12m. 1s.

			°	′	″
February	1	. .	−25	53	58.2
March	6	. .			59.4

O. ARG. S. 8345, 8h. 12m. 24s.

			°	′	″
February	6	. .	−24	57	30.1

LACAILLE 3249, 8h. 12m. 51s.

			°	′	″
February	1	. .	−25	56	18.5
March	6	. .			18.6

LACAILLE 3257, 8h. 13m. 20s.

			°	′	″
February	21	. .	−35	2	49.0

O. ARG. S. 8383, 8h. 14m. 11s.

			°	′	″
February	6	. .	−25	1	0.0
March	27	. .			1.3

WEISSE VIII, 381, 8h. 16m. 1s.

			°	′	″
April	1	. .	+12	36	4.1

WEISSE VIII, 389, 8h. 16m. 13s.

			°	′	″
March	11	. .	+12	2	2.1

ϕ^3 CANCRI, (1st *) 8h. 18m. 55s.

			°	′	″
March	7	. .	+27	21	24.2

ϕ^2 CANCRI, (2d *) 8h. 18m. 55s.

			°	′	″
March	7	. .	+27	21	29.3

WEISSE VIII, 490, 8h. 22m. 10s.

			°	′	″
March	23	. .	+16	38	23.1

η CANCRI, 8h. 25m. 14s.

			°	′	″
March	6	. .	+20	52	52.9

O. ARG. S. 8654, 8h. 25m. 57s.

			°	′	″
February	20	. .	−25	14	38.7
March	27	. .			41.7

O. ARG. S. 8660, 8h. 26m. 9s.

			°	′	″
February	20	. .	−25	10	14.4
March	27	. .			16.8

35 CANCRI, 8h. 27m. 53s.

			°	′	″
February	21	. .	+20	2	5.3
April	1	. .			9.3

ANONYMOUS, 8h. 30m. 2s.

			°	′	″
February	21	. .	+20	0	45.7

WEISSE VIII, 708, 8h. 30m. 8s.

			°	′	″
January	26	. .	+20	11	3.5

WEISSE VIII, 713, 8h. 30m. 14s.

			°	′	″
April	1	. .	+19	58	9.7

B. A. C. 2899, 8h. 30m. 21s.

			°	′	″
March	6	. .	+19	43	6.2

ANONYMOUS, 8h. 31m. 8s.

			°	′	″
March	7	. .	+20	26	34.5
	11	. .			35.1
	23	. .			37.4

ANONYMOUS, 8h. 31m. 21s.

			°	′	″
March	6	. .	+19	57	18.6

WEISSE (2) 756, 8h. 31m. 38s.

			°	′	″
January	26	. .	+20	10	47.7

B. A. C. 2907, 8h. 31m. 42s.

			°	′	″
February	21	. .	+20	2	49.7
April	1	. .			50.3

ANONYMOUS, 8h. 32m. 11s.

			°	′	″
March	11	. .	+20	32	33.6

B. A. C. 2914, 8h. 32m. 25s.

			°	′	″
February	21	. .	+19	59	49.0
March	6	. .			49.8
April	1	. .			49.4

WEISSE VIII, 793, 8h. 32m. 31s.

			°	′	″
February	21	. .	+19	59	52.6
April	1	. .			52.5

ANONYMOUS, 8h. 32m. 31s.

			°	′	″
March	11	. .	+20	37	24.3

39 CANCRI, 8h. 32m. 38s.

			°	′	″
March	7	. .	+20	27	54.0
	23	. .			55.1

40 CANCRI, 8h. 32m. 43s.

			°	′	″
March	7	. .	+20	25	43.3
	23	. .			42.8

ANONYMOUS, 8h. 32m. 52s.

			°	′	″
March	7	. .	+20	27	8.0

ANONYMOUS, 8h. 32m. 47s.

			°	′	″
February	28	. .	+19	59	22.8

B. A. C. 2919, 8h. 32m. 55s.

			°	′	″
January	26	. .	+20	7	39.1

ANONYMOUS, 8h. 33m. 6s.

			°	′	″
February	2	. .	+ 6	1	20.3

B. A. C. 2925, 8h. 33m. 30s.

			°	′	″
January	26	. .	+20	2	19.2
March	6	. .			22.4
April	1	. .			21.9

B. A. C. 2931, 8h. 34m. 24s.

			°	′	″
March	7	. .	+20	20	5.2
	23	. .			7.5

ANONYMOUS, 8h. 34m. 42s.

			°	′	″
March	6	. .	+19	52	24.8

ANONYMOUS, 8h. 35m. 14s.

			°	′	″
February	21	. .	+20	0	24.1
	28	. .			23.2

ϵ HYDRÆ, 8h. 39m. 53s.

			°	′	″
March	27	. .	+ 6	53	39.8

COMPANION OF ϵ HYDRÆ.

			°	′	″
March	27	. .	+ 6	53	37.2

35 LYNCIS, 8h. 43m. 14s.

			°	′	″
April	8	. .	+44	12	29.2

LACAILLE 3546, 8h. 44m. 7s.

			°	′	″
April	1	. .	−30	27	1.8

B. A. C. 3005, 8h. 44m. 38s.

			°	′	″
February	2	. .	−28	58	47.9
	20	. .			47.6

WEISSE VIII, 1222, 8h. 48m. 10s.

			°	′	″
April	13	. .	+ 4	38	26.8

LACAILLE 3582, 8h. 48m. 53s.

			°	′	″
March	18	. .	−31	39	49.5

B. A. C. 3039, (N. *) 8h. 49m. 8s.

			°	′	″
February	28	. .	− 7	28	25.9
March	6	. .			26.2

B. A. C. 3039, (S. *) 8h. 49m. 8s.

			°	′	″
February	28	. .	− 7	28	34.3
March	6	. .			31.2

ι URSÆ MAJORIS, 8h. 50m. 18s.

			°	′	″
March	20	. .	+48	32	62.1

ι URSÆ MAJORIS, (Ref.)

			°	′	″
March	11	. .	+48	32	59.9
	20	. .			61.7

α CANCRI, 8h. 51m. 24s.

			°	′	″
February	4	. .	+12	21	34.6
	20	. .			35.2

WEISSE VIII, 1347, 8h. 56m. 13s.

			°	′	″
April	8	. .	+43	34	3.1

B. A. C. 3096, 8h. 57m. 29s.

			°	′	″
February	20	. .	−24	59	27.3
March	6	. .			28.8

LACAILLE 3671, 8h. 59m. 36s.

			°	′	″
March	27	. .	−28	30	1.5

κ CANCRI, 9h. 0m. 44s.

			°	′	″
March	20	. .	+11	11	23.9

κ CANCRI, (Ref.)

			°	′	″
March	20	. .	+11	11	22.6

B. A. C. 3121, 9h. 2m. 22s.

			°	′	″
April	13	. .	−25	20	4.8

LACAILLE 3690, 9h. 2m. 59s.

			°	′	″
April	13	. .	−25	18	50.5

ANONYMOUS, 9h. 3m. 28s.

			°	′	″
April	1	. .	−28	25	59.3

LACAILLE 3700, 9h. 4m. 3s.

			°	′	″
March	18	. .	−29	17	26.6

B. A. C. 3127, 9h. 4m. 4s.

			°	′	″
April	13	. .	−25	16	33.7

ϵ MALI, 9h. 4m. 28s.

			°	′	″
March	23	. .	−29	50	8.2

LACAILLE 3718, 9h. 6m. 48s.

			°	′	″
April	1	. .	−28	24	53.8

LACAILLE 3750, 9h. 10m. 12s.

			°	′	″
February	21	. .	−32	46	60.1
	28	. .			59.3
March	6	. .			59.4

O. ARG. S. 9539, 9h. 11m. 15s.

			°	′	″
April	1	. .	−29	24	30.8

ANONYMOUS, 9h. 14m. 51s.

			°	′	″
March	18	. .	−28	34	33.3

B. A. C. 3194, 9h. 16m. 2s.

			°	′	″
April	8	. .	+25	44	12.1

1 (Hev.) DRACONIS, 9h. 18m. 20s.

			°	′	″
April	6	. .	+81	53	50.2

ω LEONIS, 9h. 21m. 32s.

			°	′	″
April	1	. .	+ 9	37	18.1

WEISSE IX, 488, 9h. 23m. 35s.

			°	′	″
March	18	. .	−12	9	58.1
	23	. .			58.2

WEISSE IX, 498, 9h. 24m. 4s.

			°	′	″
March	23	. .	−12	9	41.9

WEISSE (2) IX, 486, 9h. 24m. 5s.

			°	′	″
April	13	. .	+24	59	5.0

θ URSÆ MAJORIS, 9h. 24m. 13s.

			°	′	″
March	10	. .	+52	16	8.0
	20	. .			5.5

θ URSÆ MAJORIS, (Ref.)

			°	′	″
March	20	. .	+52	16	5.1

LACAILLE 3903, 9h. 27m. 55s.

			°	′	″
February	27	. .	−38	33	17.6

33 HYDRÆ, 9h. 28m. 5s.

			°	′	″
February	20	. .	− 5	20	5.6

LACAILLE 3923, 9h. 30m. 44s.

			°	′	″
March	25	. .	−24	7	55.3

LACAILLE 3945, 9h. 32m. 10s.

				°	′	″
March	23	.	.	−30	5	43.5

o LEONIS, 9h. 34m. 14s.

				°	′	″
February	20	.	.	+10	28	59.0

LACAILLE 3967, 9h. 34m. 39s.

				°	′	″
April	18	.	.	−30	19	59.6

LACAILLE 3976, 9h. 36m. 13s.

				°	′	″
April	1	.	.	−29	42	44.5

ε LEONIS, 9h. 38m. 30s.

				°	′	″
March	20	.	.	+24	22	18.7

ε LEONIS, (Ref.)

				°	′	″
March	20	.	.	+24	22	16.8

LACAILLE 3996, 9h. 38m. 59s.

				°	′	″
March	10	.	.	−38	58	29.6
April	17	.	.			30.9

WEISSE (2) IX, 832, 9h. 40m. 3s.

				°	′	″
April	8	.	.	+16	7	43.1

LACAILLE 4016, 9h. 41m. 32s.

				°	′	″
March	23	.	.	−38	43	19.0

ANONYMOUS, 9h. 43m. 44s.

				°	′	″
March	10	.	.	−38	58	17.0
April	17	.	.			17.0

WEISSE IX, 929, 9h. 43m. 48s.

				°	′	″
April	1	.	.	+14	43	32.6

μ LEONIS, 9h. 45m. 22s.

				°	′	″
March	7	.	.	+26	37	5.7
	17	.	.			6.5
	20	.	.			5.9

μ LEONIS, (Ref.)

				°	′	″
March	7	.	.	+26	37	5.1
	20	.	.			3.9

(* 114) W., 9h. 46m. 36s.

				°	′	″
March	23	.	.	+14	55	36.3

LACAILLE 4058, 9h. 48m. 17s.

				°	′	″
March	27	.	.	−27	23	9.8

ANONYMOUS, 9h. 50m. 36s.

				°	′	″
March	10	.	.	−38	56	8.0
April	17	.	.			7.4

LACAILLE 4076, 9h. 51m. 5s.

				°	′	″
April	6	.	.	−26	51	31.3

ANONYMOUS, 9h. 52m. 33s.

				°	′	″
March	10	.	.	−38	57	20.5
April	17	.	.			19.8

LACAILLE 4089, 9h. 52m. 57s.

				°	′	″
March	18	.	.	−28	41	3.3
April	1	.	.			3.4

π LEONIS, 9h. 53m. 22s.

				°	′	″
April	18	.	.	+ 8	40	1.8

LACAILLE 4106, (1st *,) 9h. 56m. 3s.

				°	′	″
March	23	.	.	−28	3	6.6
	27	.	.			7.4

LACAILLE 4106, (2d *,) 9h. 56m. 3s.

				°	′	″
March	23	.	.	−28	2	45.9
	27	.	.			49.0

LACAILLE 4115, 9h. 57m. 2s.

				°	′	″
April	27	.	.	−29	57	5.3

ANONYMOUS, 9h. 58m. 17s.

				°	′	″
March	10	.	.	−38	39	4.0
April	17	.	.			4.1

α LEONIS, 10h. 1m. 27s.

				°	′	″
March	7	.	.	+12	36	5.5
	11	.	.			5.8
	17	.	.			6.4
	20	.	.			6.3
July	27	.	.			6.7

α LEONIS (Ref.)

				°	′	″
March	7	.	.	+12	36	5.7
	11	.	.			4.8
	20	.	.			5.2

16 SEXTANTIS, 10h. 2m. 28s.

				°	′	″
April	14	.	.	+ 6	48	26.0

LACAILLE 4165, 10h. 3m. 49s.

				°	′	″
April	1	.	.	−32	12	37.2

WEISSE (2) X, 53, 10h. 4m. 20s.

				°	′	″
April	18	.	.	+30	47	19.8

WEISSE X, 38, 10h. 4m. 22s.

				°	′	″
April	14	.	.	+6	48	25.9

LACAILLE 4183, 10h. 6m. 12s.

				°	′	″
April	6	.	.	−27	57	53.8

WEISSE X, 76, 10h. 6m. 31s.

				°	′	″
April	25	.	.	+11	58	53.2

WEISSE (2) X, 120, 10h. 6m. 44s.

				°	′	″
April	27	.	.	+32	4	7.4

B. A. C. 3489, 10h. 7m. 23s.

				°	′	″
March	22	.	.	−26	23	14.2
	27	.	.			15.8

22 LEONIS MINORIS, 10h. 7m. 39s.

				°	′	″
April	27	.	.	+32	6	44.3

B. A. C. 3497, 10h. 8m. 13s.

				°	′	″
April	8	.	.	−39	42	8.9

B. A. C. 3498, 10h. 8m. 28s.

				°	′	″
April	8	.	.	−39	39	58.8

32 URSÆ MAJORIS, 10h. 8m. 38s.

				°	′	″
March	17	.	.	+65	45	22.5

LACAILLE 4218, 10h. 10m. 13s.

				°	′	″
March	23	.	.	−27	58	9.6
April	24	.	.			8.9

γ LEONIS, 10h. 12m. 51s.

				°	′	″
March	18	.	.	+20	29	55.6
	20	.	.			55.3

γ LEONIS, (Ref.)

				°	′	″
March	18	.	.	+20	29	54.7
	20	.	.			53.8

WEISSE (2) X, 257, 10h. 14m. 9s.

				°	′	″
May	2	.	.	+44	33	26.1

WEISSE (2) X, 258, 10h. 14m. 9s.

				°	′	″
May	2	.	.	+44	33	34.1

LACAILLE 4253, 10h. 14m. 30s.

				°	′	″
April	1	.	.	−39	3	2.3

WEISSE X, 234, 10h. 15m. 2s.

				°	′	″
April	14	.	.	+11	21	18.0

WEISSE X, 276, 10h. 17m. 29s.

				°	′	″
April	14	.	.	+11	14	43.2

γ ANTLIÆ, 10h. 17m. 58s.

				°	′	″
April	18	.	.	−28	59	29.2

RUMKER 3172, 10h. 18m. 3s.

				°	′	″
April	25	.	.	+11	31	45.1

29 LEONIS MINORIS, 10h. 18m. 16s.

				°	′	″
April	27	.	.	+36	5	11.1

26 SEXTANTIS, 10h. 20m. 0s.

				°	′	″
March	27	.	.	− 0	19	39.2

45 LEONIS, 10h. 20m. 49s.

				°	′	″
March	20	.	.	+10	25	28.7

B. A. C. 3576, 10h. 20m. 58s.

				°	′	″
March	27	.	.	− 0	18	3.8
April	24	.	.			3.3

O. ARG. S. 10666, 10h. 23m. 21s.

				°	′	″
April	17	.	.	−29	52	30.4
May	2	.	.			32.6

δ ANTLIÆ, 10h. 23m. 38s.

				°	′	″
April	17	.	.	−29	56	30.6

9 (Hev.) DRACONIS, 10h. 23m. 59s.

				°	′	″
March	17	.	.	+76	22	53.6

ρ LEONIS, 10h. 26m. 0s.

				°	′	″
March	20	.	.	+ 9	58	31.1

ρ LEONIS, (Ref.)

				°	′	″
March	20	.	.	+ 9	58	30.0

LACAILLE 4340, 10h. 27m. 48s.

				°	′	″
March	22	.	.	−26	40	43.5

LACAILLE 4349, 10h. 28m. 51s.

				°	′	″
April	1	.	.	−30	40	18.7

ANONYMOUS, 10h. 29m. 8s.

				°	′	″
March	11	.	.	−29	39	60 7
April	17	.	.			58.0

B. A. C. 3638, 10h. 31m. 10s.

				°	′	″
April	24	.	.	−26	44	23.7

37 LEONIS MINORIS, 10h. 31m. 24s.

				°	′	″
April	27	.	.	+32	39	2.2

LACAILLE 4382, 10h. 33m. 2s.

				°	′	″
March	18	.	.	−25	10	23.3
April	24	.	.			24.6

LACAILLE 4387, 10h. 33m. 25s.

				°	′	″
March	10	.	.	−36	0	4.6
May	2	.	.			6.2

WEISSE X, 664, 10h. 38m. 18s.

				°	′	″
April	18	.	.	+ 5	1	16.8

37 SEXTANTIS, 10h. 39m. 22s.

				°	′	″
March	22	.	.	+ 7	3	29.7

CARRINGTON, *g*, 10h. 41m. 3s.

				°	′	″
March	23	.	.	+89	27	19.3:

ANONYMOUS, 10h. 41m. 23s.

				°	′	″
April	17	.	.	−29	57	6.1

l LEONIS, 10h. 42m. 28s.

				°	′	″
March	17	.	.	+11	13	58.7
	20	.	.			58.2

l LEONIS, (Ref.)

				°	′	″
March	20	.	.	+11	13	57.0

ANONYMOUS, 10h. 42m. 57s.

				°	′	″
May	2	.	.	−29	47	22.4

O. ARG. S. 10906, 10h. 43m. 5s.

				°	′	″
March	10	.	.	−26	7	43.5

O. ARG. S. 10907, 10h. 43m. 7s.

				°	′	″
April	17	.	.	−29	57	13.0

O. ARG. S. 10912, 10h. 43m. 19s.

				°	′	″
March	11	.	.	−29	51	54.3
April	17	.	.			52.7
May	2	.	.			53.9

B. A. C. 3719, 10h. 43m. 55s.

				°	′	″
April	25	.	.	−33	22	15.4

Σ CAT. GEN. 1248, 10h. 44m. 4s.

				°	′	″
March	18	.	.	+25	8	21.4

LACAILLE 4488, 10h. 44m. 25s.

				°	′	″
April	27	.	.	−33	9	5.4

CARRINGTON 1611, 10h. 44m. 51s.

				°	′	″
April	1	.	.	+81	44	40.6

DORPAT 1482, (1st *,) 10h. 45m. 23s.

			°	′	″
April	6	. .	+ 8	9	6.4

b^3 HYDRÆ, 10h. 47m. 10s.

March	22	. .	—19	26	19.7
April	24	. .			20.2

54 LEONIS, 10h. 48m. 34s.

April	18	. .	+25	26	34.0

LACAILLE 4516, 10h. 49m. 16s.

March	10	. .	—26	17	8.1

WEISSE (2) X, 994, 10h. 50m. 15s.

April	25	. .	+24	50	6.8
May	2	. .			7.6

d LEONIS, 10h. 53m. 56s.

April	14	. .	+ 4	18	55.5

CARRINGTON 1637, 10h. 53m. 55s.

April	1	. .	+81	44	23.6

a URSÆ MAJORIS, 10h. 55m. 42s.

March	11	. .	+62	27	9.7
	17	. .			10.1
	18	. .			9.8
	20	. .			9.4

a URSÆ MAJORIS, (Ref.)

March	7	. .	+62	27	9.1
	11	. .			9.6
	18	. .			9.9
	20	. .			8.6
April	8	. .			10.3

LACAILLE 4566, 10h. 55m. 59s.

March	10	. .	—37	8	6.4
May	2	. .			8.8

LACAILLE 4576, 10h. 58m. 7s.

May	1	. .	—39	36	28.1

χ LEONIS, 10h. 58m. 20s.

April	24	. .	+ 8	2	19.5

LACAILLE 4596, 11h. 0m. 39s.

April	27	. .	—29	51	2.0

LACAILLE 4600, 11h. 1m. 12s.

April	18	. .	—27	47	20.4
	28	. .			18.3

WEISSE XI, 23, 11h. 3m. 49s.

April	14	. .	+ 8	35	48.6

O. ARG. N. 11518, 11h. 4m. 3s.

April	1	. .	+59	36	13.5
	25	. .			15.5

LACAILLE 4630, 11h. 4m. 12s.

March	10	. .	—25	17	19.7

LACAILLE 4638, 11h. 5m. 40s.

March	10	. .	—25	25	40.5

(* 124) W., 11h. 5m. 42s.

			°	′	″
April	27	. .	+59	21	9.5:

d LEONIS, (Ref.,) 11h. 7m. 11s.

April	8	. .	+21	14	10.3

O. ARG. S 11250, 11h. 8m. 18s.

March	10	. .	—25	21	59.1

O. ARG. N. 11590, 11h. 8m. 22s.

March	18	. .	+69	55	40.3

LACAILLE 4667, 11h. 9m. 1s.

April	17	. .	—38	46	6.0
May	1	. .			7.4

O. ARG. N. 11619, 11h. 9m. 31s.

March	18	. .	+69	53	47.4:

LACAILLE 4693, 11h. 12m. 15s.

April	24	. .	—23	37	58.2

O. ARG. N. 11674, 11h. 13m. 17s.

April	1	. .	+72	26	12.1

SCHJELLERUP 4118, 11h. 15m. 1s.

April	14	. .	—11	59	15.8

WEISSE XI, 284, 11h. 18m. 7s.

April	6	. .	+ 2	48	36.3
May	2	. .			36.8

(* 123) W., 11h. 23m. 20s.

March	18	. .	+72	10	8.4
May	2	. .			9.0

λ DRACONIS, 11h. 23m. 39s.

March	6	. .	+70	2	54.5
May	17	. .			55.2

λ DRACONIS, (Ref.)

March	6	. .	+70	2	54.1
April	8	. .			54.4

LACAILLE 4766, 11h. 24m. 25s.

April	18	. .	—38	31	12.6
May	1	. .			8.5

ANONYMOUS, 11h. 25m. 17s.

April	17	. .	+ 0	43	28.8

LALANDE 21911, 11h. 25m. 41s.

April	14	. .	+ 0	18	33.2

B. A. C. 3921, 11h. 25m. 52s.

April	28	. .	—28	33	3.9

B. A. C. 3922, 11h. 25m. 52s.

April	28	. .	—28	32	55.7

LACAILLE 4773, 11h. 26m. 7s.

April	28	. .	—28	25	27.3

2 DRACONIS, 11h. 28m. 23s.

May	17	. .	+70	2	47.2

2 DRACONIS, (Ref.)

			°	′	″
April	8	. .	+70	2	46.2

O. ARG. N. 11901, 11h. 29m. 50s.

April	25	. .	+71	16	26.7

B. A. C. 3940, 11h. 29m. 54s.

May	2	. .	+ 6	49	48.1

v LEONIS, 11h. 30m. 17s.

April	6	. .	— 0	6	20.9
	24	. .			22.0

B. A. C. 3962, 11h. 33m. 46s.

March	18	. .	+ 1	40	22.6

ANONYMOUS, 11h. 33m. 49s.

March	10	. .	—27	46	30.9
	13	. .			32.5

B. A. C. 3969, 11h. 35m. 18s.

March	11	. .	—31	46	39.6
May	1	. .			38.7

O. ARG. N. 12020, 11h. 37m. 17s.

April	1	. .	+73	52	5.0
May	6	. .			6.2

B. A. C. 3975, 11h. 37m. 19s.

April	28	. .	— 5	57	14.7

LACAILLE 4882, 11h. 39m. 53s.

March	10	. .	—34	1	46.5

LACAILLE 4890, 11h. 40m. 48s.

April	28	. .	—29	33	21.5

B. A. C. 3992, 11h. 42m. 0s.

March	18	. .	+15	0	22.7

β LEONIS, 11h. 42m. 26s.

March	22	. .	+15	17	57.9
May	17	. .			57.5
August	21	. .			55.3
	25	. .			55.8

β LEONIS, (Ref.)

March	6	. .	+15	17	56.1
	7	. .			56.3
May	17	. .			55.3

β VIRGINIS, 11h. 43m. 55s.

April	14	. .	+ 2	29	53.1

WEISSE XI, 785, 11h. 46m. 17s.

April	18	. .	+14	8	42.0
	25	. .			40.9

B. A. C. 4016, 11h. 46m. 55s.

April	17	. .	—34	20	32.4
May	1	. .			31.6
	2	. .			31.6

B. A. C. 4025, 11h. 48m. 13s.

May	6	. .	— 0	42	58.6

ANONYMOUS, 11h. 49m. 3s.

			°	′	″
April	1	. .	+11	4	42.8

LACAILLE 4948, 11h. 50m. 57s.

March	13	. .	—26	19	47.8

WEISSE XI, 895, 11h. 52m. 56s.

May	13	. .	— 1	11	37.7

B. A. C. 4063, 11h. 56m. 59s.

March	13	. .	— 4	45	18.5
May	6	. .			18.1

LACAILLE 4993, 11h. 57m. 4s.

March	11	. .	—38	17	0.8
May	1	. .			1.6

O. ARG. S. 11876, 11h. 57m. 55s.

April	13	. .	—30	27	47.1

o VIRGINIS, 11h. 58m 35s.

March	6	. .	+ 9	27	19.7
May	17	. .			19.9
June	1	. .			18.7

o VIRGINIS, (Ref.)

April	18	. .	+ 9	27	18.9
May	17	. .			17.1

O. ARG. N. 12337, 12h. 0m. 6s.

April	25	. .	+75	23	43.0

a CORVI, 12h. 1m. 44s.

May	13	. .	—24	0	11.4

O. ARG. N. 12397, 12h. 3m. 28s.

April	25	. .	+75	23	6.0

WEISSE XII, 34, 12h. 4m. 25s.

April	27	. .	+ 9	26	25.0

4 (Hev.) DRACONIS, 12h. 6m. 5s.

May	17	. .	+78	20	20.3

4 (Hev.) DRACONIS, (Ref.)

May	17	. .	+78	20	19.5

4 (Hev.) DRACONIS, S. P.

September	16	. .	+78	20	19.6

4 (Hev.) DRACONIS, S. P., (Ref.)

September	11	. .	+78	20	20.3

LACAILLE 5071, 12h. 7m. 20s.

May	6	. .	—31	39	47.8:

O. ARG. S. 12037, 12h. 9m. 21s.

April	25	. .	—28	54	3.2

WEISSE XII, 160, 12h. 11m. 32s.

May	13	. .	+ 5	49	1.9

13 VIRGINIS, 12h. 12m. 3s.

March	13	. .	— 0	3	50.8

LACAILLE 5101, 12h. 13m. 13s.

				°	′	″
April	24	.	.	−26	0	49.6

η VIRGINIS, 12h. 13m. 16s.

March	13	.	.	+ 0	3	22.0
June	1	.	.			21.6
	2	.	.			21.6

η VIRGINIS, (Ref.)

April	18	.	.	+ 0	3	21.8
June	2	.	.			20.7

O. ARG. S. 12101, 12h. 14m. 33s.

April	24	.	.	−26	0	37.0

17 VIRGINIS, 12h. 15m. 57s.

April	27	.	.	+ 6	1	44.5

B. A. C. 4171, 12h. 16m. 30s.

April	14	.	.	− 6	34	40.1
	26	.	.			41.5

B. A. C. 4184, 12h. 18m. 44s.

May	13	.	.	+24	38	54.8

B. A. C. 4198, 12h. 21m. 6s.

March	13	.	.	−15	54	44.1
May	12	.	.			42.0

ANONYMOUS, 12h. 21m. 45s.

April	13	.	.	−35	12	39.9
May	1	.	.			42.3

ANONYMOUS, 12h. 22m. 21s.

April	13	.	.	−35	16	38.8
May	1	.	.			37.7

WEISSE XII, 359, 12h. 22m. 28s.

May	23	.	.	+ 6	40	47.9

ANONYMOUS, 12h. 23m. 0s.

April	13	.	.	−35	6	40.6
May	1	.	.			40.3

δ CORVI, 12h. 23m. 10s.

March	13	.	.	−15	47	28.3
May	12	.	.			27.1

20 COMÆ, 12h. 23m. 14s.

April	14	.	.	+21	37	0.4

O. ARG. S. 12232, 12h. 26m. 1s.

April	24	.	.	−29	19	36.4

κ DRACONIS, 12h. 27m. 55s.

May	17	.	.	+70	30	18.7
June	1	.	.			19.0

κ DRACONIS, (Ref.)

April	8	.	.	+70	30	17.8
	18	.	.			18.5
	27	.	.			18.5
May	17	.	.			18.4

WEISSE XII, 452, 12h. 27m. 57s.

May	23	.	.	+ 6	41	2.7

WEISSE XII, 463, 12h. 28m. 40s.

May	6	.	.	+ 2	58	32.4

O. ARG. S. 12288, 12h. 30m. 41s.

April	26	.	.	−27	41	58.9
May	1	.	.			58.1

WEISSE XII, 519, 12h. 32m. 5s.

April	14	.	.	+14	31	22.1

B. A. C. 4256, 12h. 32m. 10s.

March	11	.	.	−29	42	25.4

ANONYMOUS, 12h. 34m. 24s.

April	24	.	.	−27	11	37.9

28 VIRGINIS, 12h. 35m. 16s.

May	13	.	.	− 6	47	4.9
	15	.	.			4.6

ANONYMOUS, 12h. 36m. 41s.

May	1	.	.	−34	42	0.8

B. A. C. 4278, 12h. 37m. 7s.

April	25	.	.	−27	36	34.8
	26	.	.			35.8

WEISSE XII, 652, 12h. 39m. 26s.

May	23	.	.	+14	17	40.2

LALANDE 23832, 12h. 40m. 34s.

May	23	.	.	+14	19	40.1

28 COMÆ, 12h. 41m. 43s.

May	23	.	.	+14	15	52.2

LACAILLE 5295, 12h. 43m. 27s.

April	24	.	.	−29	52	9.2

WEISSE XII, 728, 12h. 43m. 42s.

May	6	.	.	−12	19	33.3

WEISSE XII, 736, 12h. 44m. 5s.

May	15	.	.	− 0	2	41.1

WEISSE XII, 743, 12h. 44m. 40s.

April	13	.	.	−12	46	14.2

ANONYMOUS, 12h. 45m. 39s.

May	1	.	.	−38	36	17.0

LACAILLE 5311, 12h. 46m. 7s.

April	8	.	.	−38	40	58.8
May	1	.	.			58.3

ANONYMOUS, 12h. 47m. 18s.

April	26	.	.	−27	15	7.7
May	16	.	.			7.0

ANONYMOUS, 12h. 47m. 36s.

May	1	.	.	−38	48	3.3

WEISSE XII, 834, 12h. 49m. 37s.

April	13	.	.	−14	14	33.6

α CANUM VENAT., S. *, 12h. 49m. 56s.

				°	′	″
April	14	.	.	+39	1	3.2
May	12	.	.			1.1

α CANUM VENAT., N. *, 12h. 49m. 56s.

April	14	.	.	+39	1	15.8
May	12	.	.			15.7

WEISSE XII, 857, 12h. 51m. 9s.

April	27	.	.	−13	38	30.0
May	13	.	.			30.3

ANONYMOUS, 12h. 52m. 15s.

April	13	.	.	−14	16	52.2

ANONYMOUS, 12h. 52m. 55s.

April	8	.	.	−35	28	43.5
May	6	.	.			45.0

LACAILLE 5363, 12h. 54m. 36s.

May	1	.	.	−38	54	59.7

B. A. C. 4363, 12h. 54m. 55s.

April	24	.	.	+ 2	13	16.8
May	15	.	.			17.5

LACAILLE 5367, 12h. 55m. 21s.

April	25	.	.	−27	35	9.7
	26	.	.			11.4

LACAILLE 5382, 12h. 57m. 21s.

April	26	.	.	−27	42	21.1
June	3	.	.			19.3

O. ARG. S. 12629, 12h. 58m. 10s.

May	23	.	.	−16	58	34.4

B. A. C. 4383, 12h. 59m. 44s.

May	1	.	.	−35	9	44.3

LACAILLE 5405, 13h. 0m. 34s.

April	24	.	.	−29	44	18.9

O. ARG. S. 12662, 13h. 1m. 8s.

April	25	.	.	−27	30	32.1
	26	.	.			35.5

LACAILLE 5407, 13h. 1m. 11s.

April	8	.	.	−35	31	45.7
May	6	.	.			47.0

θ VIRGINIS, 13h. 3m. 13s.

May	12	.	.	− 4	50	36.0

WEISSE XIII, 81, 13h. 6m. 41s.

April	13	.	.	− 2	48	13.2
	18	.	.			13.5

LALANDE 24610, 13h. 9m. 22s.

April	29	.	.	− 4	58	43.2

WEISSE XIII, 169, 13h. 11m. 35s.

April	29	.	.	− 5	6	12.2

LACAILLE 5503, 13h. 14m. 33s.

				°	′	″
April	8	.	.	−35	25	43.6
May	6	.	.			46.3
June	2	.	.			46.0
	7	.	.			44.4

LALANDE 24816, 13h. 17m. 11s.

April	28	.	.	−24	27	0.3

α VIRGINIS, (Ref.,) 13h. 18m. 21s.

June	3	.	.	−10	28	55.4

ANONYMOUS, 13h. 20m. 33s.

May	6	.	.	−34	59	39.4
June	2	.	.			36.1

LACAILLE 5553, 13h. 20m. 54s.

May	15	.	.	−25	43	35.8

B. A. C. 4496, 13h. 21m. 37s.

April	29	.	.	− 0	8	57.7

WEISSE XIII, 354, 13h. 22m. 57s.

May	13	.	.	+ 2	22	57.0

LACAILLE 5582, 13h. 25m. 44s.

April	28	.	.	−25	55	2.9

WEISSE XIII, 426, 13h. 26m. 38s.

May	23	.	.	− 6	57	13.4

ANONYMOUS, 13h. 27m. 48s.

May	6	.	.	−34	58	54.6
	16	.	.			54.6
June	2	.	.			54.9

ζ VIRGINIS, 13h. 28m. 4s.

June	3	.	.	+ 0	4	10.9
	9	.	.			10.7

ζ VIRGINIS, (Ref.)

April	25	.	.	+ 0	4	10.1

WEISSE XIII, 461, 13h. 28m. 26s.

April	26	.	.	+ 7	7	11.7

WEISSE XIII, 472, 13h. 28m. 44s.

April	26	.	.	+ 7	10	34.3

B. A. C. 4541, N. *, 13h. 29m. 37s.

May	13	.	.	−25	49	51.0
	15	.	.			50.9

B. A. C. 4541, S. *, 13h. 29m. 37s.

May	13	.	.	−25	50	1.3
	15	.	.			1.4

ANONYMOUS, 13h. 32m. 10s.

April	13	.	.	+76	57	37.3

O. ARG. N. 13847, 13h. 33m. 1s.

April	29	.	.	+77	12	40.2

WEISSE XIII, 583, 13h. 35m. 2s.

June	3	.	.	− 6	53	46.3

B. A. C. 4578, 13h. 38m. 9s.

				°	′	″
May	23	.	.	— 6	58	48.0

Weisse XII, 676, 13h. 40m. 33s.

				°	′	″
May	23	.	.	— 7	50	59.9

Lacaille 5682, 13h. 41m. 30s.

				°	′	″
June	7	.	.	—35	2	53.8

B. A. C. 4631, 13h. 46m. 0s.

				°	′	″
June	7	.	.	—35	1	14.9

η Bootis, 13h. 48m. 29s.

				°	′	″
May	12	.	.	+19	3	5.3
	13	.	.			3.6

η Bootis, (Ref.)

				°	′	″
May	13	.	.	+19	3	3.8
	16	.	.			2.7

47 Hydræ, 13h. 51m. 17s.

				°	′	″
May	15	.	.	—24	20	8.5

Anonymous, 13h. 54m. 0s.

				°	′	″
May	23	.	.	—38	48	26.0

B. A. C. 4671, 13h. 55m. 3s.

				°	′	″
June	3	.	.	—26	48	1.9

Anonymous, 13h. 56m. 20s.

				°	′	″
May	24	.	.	—37	8	43.4

Lacaille 5812, 13h. 58m. 13s.

				°	′	″
May	24	.	.	—37	6	18.8

94 Virginis, 13h. 59m. 28s.

				°	′	″
May	12	.	.	— 8	16	8.6

B. A. C. 4691, 14h. 0m. 9s.

				°	′	″
May	15	.	.	—15	34	7.3

α Draconis, 14h. 0m. 53s.

				°	′	″
April	29	.	.	+64	59	53.3
May	13	.	.			53.1

α Draconis, (Ref.)

				°	′	″
April	29	.	.	+64	59	52.2
May	13	.	.			52.9

α Bootis, 14h. 9m. 47s.

				°	′	″
May	12	.	.	+19	51	48.3
June	9	.	.			47.1
	23	.	.			47.2
August	21	.	.			50.1

α Bootis, (Ref.)

				°	′	″
May	13	.	.	+19	51	48.2
	29	.	.			46.9
June	3	.	.			46.8
	8	.	.			47.4
	9	.	.			45.7
	23	.	.			46.5

Weisse XIV, 199, 14h. 12m. 33s.

				°	′	″
May	23	.	.	—13	6	31.8

2 Libræ, 14h. 16m. 27s.

				°	′	″
May	12	.	.	—11	7	4.9

Weisse XIV, 293. 14h. 17m. 33s.

				°	′	″
May	23	.	.	—13	29	21.8

Weisse XIV, 316, 14h. 18m. 22s.

				°	′	″
May	23	.	.	—13	29	49.3

θ Bootis, 14h. 20m. 47s.

				°	′	″
April	29	.	.	+52	27	11.5
June	8	.	.			15.6

θ Bootis, (Ref.)

				°	′	″
April	29	.	.	+52	27	10.5

Lacaille 5956, 14h. 22m. 4s.

				°	′	″
May	15	.	.	—25	25	50.3

5 Ursæ Minoris, 14h. 27m. 52s.

				°	′	″
June	3	.	.	+76	16	23.4
	23	.	.			26.7

5 Ursæ Minoris, (Ref.)

				°	′	″
June	3	.	.	+76	16	26.1
	23	.	.			27.5

O. Arg. S. 13757, 14h. 29m. 34s.

				°	′	″
May	15	.	.	—25	13	44.4

Weisse XIV, 540, 14h. 30m. 25s.

				°	′	″
May	23	.	.	— 3	19	25.0

Lacaille 6060, 14h. 34m. 52s.

				°	′	″
May	15	.	.	—27	13	43.7

Schwerd 853, 14h. 37m. 19s.

				°	′	″
June	22	.	.	+80	13	15.1

5 Libræ, 14h. 38m. 47s.

				°	′	″
July	3	.	.	—14	54	34.4

ε Bootis, 14h. 39m. 21s.

				°	′	″
May	12	.	.	+27	37	25.8
June	24	.	.			25.6
	27	.	.			24.7

α^2 Libræ, 14h. 43m. 44s.

				°	′	″
May	12	.	.	—15	29	58.1
June	3	.	.			58.4

O. Arg. S. 14065, 14h. 48m. 29s.

				°	′	″
May	23	.	.	—26	16	24.6

O. Arg. S. 14080, 14h. 49m. 21s.

				°	′	″
June	24	.	.	—25	45	23.5

β Ursæ Minoris, (Ref.,) 14h. 51m. 7s.

				°	′	″
June	8	.	.	+74	41	12.7

60 Hydræ, 14h. 54m. 24s.

				°	′	″
June	27	.	.	—27	32	34.5:

Anonymous, 14h. 56m. 19s.

				°	′	″
June	27	.	.	—27	32	58.4

Weisse XIV, 1048, 14h. 56m. 54s.

				°	′	″
May	23	.	.	—10	29	27.6
June	22	.	.			29.0

Anonymous, 14h. 58m. 53s.

				°	′	″
June	3	.	.	—31	56	43.3
	24	.	.			43.1
July	6	.	.			42.9

Weisse XV, 3, 15h. 2m. 36s.

				°	′	″
June	1	.	.	—11	4	36.2
	22	.	.			36.8

ι^1 Libræ, 15h. 4m. 49s.

				°	′	″
July	3	.	.	—19	17	51.0

3 Serpentis, 15h. 8m. 45s.

				°	′	″
June	24	.	.	+ 5	25	28.3

β Libræ, 15h. 10m. 2s.

				°	′	″
July	3	.	.	— 8	54	3.5
	6	.	.			2.5

B. A. C. 5051, 15h. 13m. 0s.

				°	′	″
May	23	.	.	—25	30	40.8

O. Arg. S. 14513, 15h. 16m. 38s.

				°	′	″
June	22	.	.	—22	15	30.3

μ Bootis, 15h. 19m. 36s.

				°	′	″
July	6	.	.	+37	50	5.2

Lalande 28159, 15h. 19m. 37s.

				°	′	″
July	6	.	.	+37	48	16.4

ζ^1 Libræ, 15h. 20m. 55s.

				°	′	″
July	3	.	.	—16	15	38.7

γ^3 Ursæ Minoris, (Ref.,) 15h. 20m. 57s.

				°	′	″
June	1	.	.	+72	17	47.7

Anonymous, 15h. 21m. 6s.

				°	′	″
June	3	.	.	—38	10	45.1
	24	.	.			45.6

Anonymous, 15h. 23m. 39s.

				°	′	″
June	22	.	.	—32	10	43.8

Lacaille 6406, 15h. 23m. 40s.

				°	′	″
June	3	.	.	—38	10	25.8
	24	.	.			24.8

Anonymous, 15h. 28m. 36s.

				°	′	″
June	22	.	.	—32	12	9.2
	24	.	.			6.4

Anonymous, 15h. 28m. 40s.

				°	′	″
June	22	.	.	—32	8	51.0
	24	.	.			50.5

Anonymous, 15h. 29m. 7s.

				°	′	″
June	3	.	.	—38	39	22.7
	28	.	.			24.2

α Cor. Borealis, (Ref.,) 15h. 29m. 10s.

				°	′	″
June	8	.	.	+27	9	15.4

Anonymous, 15h. 29m. 21s.

				°	′	″
June	22	.	.	—32	3	5.7

Lacaille 6447, 15h. 30m. 3s.

				°	′	″
June	28	.	.	—38	43	48.7

Lacaille 6448, 15h. 30m. 12s.

				°	′	″
June	28	.	.	—38	41	55.2

O. Arg. S. 14736, 15h. 31m. 57s.

				°	′	″
July	6	.	.	—23	22	25.1

42 Libræ, 15h. 32m. 36s.

				°	′	″
July	6	.	.	—23	23	33.7

α Serpentis, (Ref.,) 15h. 37m. 52s.

				°	′	″
June	1	.	.	+ 6	50	10.7

O. Arg. S. 14864, 15h. 39m. 29s.

				°	′	″
June	8	.	.	—26	40	51.6
	24	.	.			49.5

ζ Ursæ Minoris, S. P., 15h. 48m. 45s.

				°	′	″
February	14	.	.	+78	11	33.7

O. Arg. S. 15061, 15h. 50m. 18s.

				°	′	″
June	22	.	.	—16	25	55.4
July	13	.	.			55.7

O. Arg. S. 15067, 15h. 50m. 37s.

				°	′	″
June	8	.	.	—16	42	31.2
July	6	.	.			29.3

π Scorpii, 15h. 51m. 1s.

				°	′	″
June	24	.	.	—25	44	13.4

O. Arg. S. 15134, 15h. 54m. 38s.

				°	′	″
June	24	.	.	—25	46	52.9
July	6	.	.			53.4

B. A. C. 5314, 15h. 55m. 28s.

				°	′	″
July	20	.	.	—25	30	1.6

O. Arg. S. 15179, 15h. 56m. 58s.

				°	′	″
June	8	.	.	—20	59	30.6

β^1 Scorpii, (Ref.,) 15h. 57m. 52s.

				°	′	″
June	1	.	.	—19	26	49.8

Anonymous, 15h. 59m. 54s.

				°	′	″
June	3	.	.	—38	45	14.1

Lacaille 6695, 15h. 59m. 55s.

				°	′	″
June	3	.	.	—38	44	28.1

O. Arg. S. 15295, 16h. 1m. 58s.

				°	′	″
June	22	.	.	—17	0	9.1
July	13	.	.			11.6

O. Arg. S. 15342, 16h. 3m. 47s.

				°	′	″
June	8	.	.	—17	46	29.1
	24	.	.			27.3
July	6	.	.			26.9

O. ARG. S. 15398, 16h. 6m. 0s.

				°	′	″
June	8	.	.	−17	45	55.1
	24	.	.			53.6
July	6	.	.			54.1

LACAILLE 6765, 16h. 9m. 3s.

June	28	.	.	−34	29	50.7

LACAILLE 6774, 16h. 9m. 50s.

June	3	.	.	−34	35	29.2
	28	.	.			30.1

LACAILLE 6806, 16h. 14m. 46s.

June	3	.	.	−34	36	50.5

LACAILLE 6818, 16h. 16m. 0s.

July	20	.	.	−34	52	11.0

LACAILLE 6821, 16h. 16m. 19s.

June	3	.	.	−34	35	18.6
	28	.	.			19.0

υ OPHIUCHI, 16h. 20m. 49s.

June	8	.	.	− 8	4	42.6

O. ARG. S. 15659, 16h. 21m. 9s.

July	6	.	.	−24	14	19.2

η URSÆ MINORIS, S. P., 16h. 21m. 20s.

January	12	.	.	+76	3	13.2
	25	.	.			12.3

ω OPHIUCHI, 16h. 24m. 27s.

July	5	.	.	−21	11	8.1

O. ARG. S. 15713, 16h. 24m. 47s.

July	13	.	.	−20	28	16.6

WEISSE XVI, 539, 16h. 29m. 28s.

June	22	.	.	− 8	35	6.9
July	6	.	.			5.9
	20	.	.			5.3

O. ARG. S. 15790, 16h. 31m. 0s.

July	17	.	.	−28	38	26.4

B. A. C. 5562, 16h. 32m. 4s.

July	17	.	.	−28	40	44.6

ANONYMOUS, 16h. 34m. 11s.

June	28	.	.	−39	15	29.3

ANONYMOUS, 16h. 35m. 52s.

June	28	.	.	−39	8	41.2

LACAILLE 6970, 16h. 37m. 55s.

June	28	.	.	−39	8	8.3

LACAILLE 6987, 16h. 40m. 51s.

July	17	.	.	−33	46	55.9

O. ARG. S. 16045, 16h. 44m. 46s.

July	6	.	.	−19	7	58.2

WEISSE XVI, 845, 16h. 44m. 55s.

June	22	.	.	− 8	38	27.1

LALANDE 30671, 16h. 45m. 37s.

				°	′	″
July	20	.	.	− 4	55	43.6

B. A. C. 5671, 16h. 46m. 21s.

July	13	.	.	−30	22	13.8

O. ARG. S. 16121, 16h. 48m. 18s.

July	13	.	.	−30	22	10.0

WEISSE XVI, 958, 16h. 51m. 29s.

July	6	.	.	− 4	8	20.1

κ OPHIUCHI, 16h. 51m. 30s.

July	28	.	.	+ 9	34	45.3

κ OPHIUCHI, (Ref.)

July	28	.	.	+ 9	34	45.4

ANONYMOUS, 16h. 52m. 27s.

June	24	.	.	−37	8	0.4

ANONYMOUS, 16h. 53m. 10s.

June	3	.	.	−37	6	23.6
	24	.	.			22.0

O. ARG. S. 16213, 16h. 53m. 35s.

July	5	.	.	−20	14	27.9

30 OPHIUCHI, 16h. 54m. 12s.

July	6	.	.	− 4	1	28.6
	20	.	.			29.8

ANONYMOUS, 16h. 54m. 55s.

June	3	.	.	−36	58	16.6
	24	.	.			14.9

LACAILLE 7123, 16h. 57m. 36s.

June	3	.	.	−37	2	41.4
	24	.	.			43.6

ANONYMOUS, 16h. 58m. 43s.

June	24	.	.	−37	7	47.1

B. A. C. 5791, 17h. 4m. 16s.

July	6	.	.	−25	5	26.5

O. ARG. S. 16450, 17h. 4m. 33s.

July	6	.	.	−25	3	48.5

SCHWERD 1014, 17h. 6m. 51s.

July	20	.	.	+78	16	31.7

O. ARG. S. 16503, 17h. 7m. 13s.

July	5	.	.	−30	6	46.7

B. A. C. 5809, 17h. 7m. 36s.

July	5	.	.	−30	3	27.2

a^1 HERCULIS, 17h. 8m. 44s.

June	28	.	.	+14	32	26.8
July	13	.	.			26.4
	28	.	.			26.7

a^1 HERCULIS, (Ref)

June	28	.	.	+14	32	26.7
July	28	.	.			26.2

B. A. C. 5820, 17h. 9m. 5s.

				°	′	″
July	5	.	.	−30	1	2.4

LACAILLE 7245, 17h. 14m. 7s.

June	24	.	.	−37	5	20.1

ANONYMOUS, 17h. 18m. 11s.

May	30	.	.	−20	39	35.0:
June	24	.	.			35.8

β DRACONIS, 17h. 27m. 30s.

July	18	.	.	+52	23	55.1

β DRACONIS, (Ref.)

July	18	.	.	+52	23	54.8

α OPHIUCHI, 17h. 28m. 54s.

June	3	.	.	+12	39	26.5
	8	.	.			26.1

α OPHIUCHI, (Ref.)

June	2	.	.	+12	39	25.6
	8	.	.			24.6

B. A. C. 5943, 17h. 29m. 34s.

July	17	.	.	−26	21	13.7
August	15	.	.			12.4

B. A. C. 5946, 17h. 30m. 1s.

August	8	.	.	−27	57	52.3

B. A. C. 5952, 17h. 30m. 49s.

July	17	.	.	−28	19	49.0

B. A. C. 5961, 17h. 32m. 13s.

July	25	.	.	−28	51	24.7

B. A. C. 5966, 17h. 32m. 32s.

August	8	.	.	−27	49	7.0

B. A. C. 5989, 17h. 36m. 22s.

July	3	.	.	−23	36	57.7

WEISSE XVII, 697, 17h. 36m. 58s.

July	22	.	.	− 7	57	37.9::
August	14	.	.			46.8
	19	.	.			47.4

ANONYMOUS, 17h. 37m. 19s.

August	12	.	.	− 7	46	34.8
	15	.	.			35.2

WEISSE XVII, 713, 17h. 37m. 28s.

August	12	.	.	− 7	47	45.6
	15	.	.			45.5

ω DRACONIS, 17h. 37m. 41s.

June	28	.	.	+68	49	3.5

ω DRACONIS, (Ref.)

June	28	.	.	+68	49	2.6

WEISSE XVII, 755, 17h, 39m. 29s.

July	20	.	.	− 7	55	33.4:
	22	.	.			34.3
August	14	.	.			34.7
	19	.	.			34.7

O. ARG. S. 17210, 17h. 39m. 48s.

				°	′	″
July	17	.	.	−20	47	6.5

WEISSE XVII, 779, 17h. 40m. 4s.

August	11	.	.	− 8	1	11.6
	12	.	.			11.3
	15	.	.			13.3

B. A. C. 6016, 17h. 40m. 44s.

August	8	.	.	−31	39	17.4

λ OPHIUCHI, 17h. 41m. 22s.

July	5	.	.	+ 2	45	31.0
	25	.	.			30.9

μ HERCULIS, 17h. 41m. 23s.

July	7	.	.	+27	47	59.0
	18	.	.			58.8

μ HERCULIS, (Ref.)

July	7	.	.	+27	47	57.6
	18	.	.			58.0

O. ARG. S. 17249, 17h. 42m. 0s.

June	22	.	.	−26	45	59.1

B. A. C. 6024, 17h. 42m. 17s.

May	30	.	.	−27	0	58.8
June	24	.	.			59.0

ANONYMOUS, 17h. 42m. 49s.

August	7	.	.	−28	36	58.2

ANONYMOUS, 17h. 43m. 37s.

August	7	.	.	−28	35	1.0

ψ^1 DRACONIS, 17h. 44m. 15s.

July	28	.	.	+72	12	44.5

O. ARG. S. 17349, 17h. 47m. 31s.

June	22	.	.	−26	54	15.4

B. A. C. 6059, 17h. 48m. 25s.

June	22	.	.	−26	44	43.2

ANONYMOUS, 17h. 50m. 17s.

May	30	.	.	−38	33	19.8

O. ARG. S. 17419, 17h. 50m. 44s.

June	22	.	.	−26	48	40.4
	24	.	.			39.8

WEISSE (2) XVII, 1601, 17h. 50m. 46s.

July	25	.	.	+18	20	52.8
August	24	.	.			53.7

O. ARG. S. 17443, 17h. 51m. 44s.

August	11	.	.	−21	1	53.0

ANONYMOUS, 17h. 52m. 37s.

June	2	.	.	−38	4	21.4
	24	.	.			20.0

95^1 HERCULIS, 17h. 55m. 59s.

August	25	.	.	+21	35	52.4

95² Herculis, 17h. 55m. 59s.

			°	′	″
August	25	. .	+21	35	53.1

Anonymous, 17h. 56m. 0s.

August	19	. .	−22	50	13.9

70¹ Ophiuchi, 17h. 58m. 53s.

August	25	. .	+ 2	32	0.7

70² Ophiuchi, 17h. 58m. 53s.

August	25	. .	+ 2	31	59.2

O. Arg. S. 17681, 18h. 0m. 41s.

August	9	. .	−21	16	2.6

O. Arg. S. 17728, 18h. 2m. 0s.

July	13	. .	−19	22	31.0

B. A. C. 6160, 18h. 3m. 42s.

August	12	. .	−28	55	31.8

B. A. C. 6161, 18h. 3m. 46s.

August	14	. .	−23	43	28.9

O. Arg. S. 17809, 18h. 4m. 38s.

July	13	. .	−19	27	34.4

B. A. C. 6190, 18h. 9m. 9s.

August	19	. .	−28	41	36.0
	24	. .			(33.0)

O. Arg. S. 18000, 18h. 10m. 29s.

August	25	. .	−18	44	51.0

O. Arg. S. 18015, 18h. 11m. 3s.

August	25	. .	−18	40	1.4

B. A. C. 6220, 18h. 13m. 44s.

August	14	. .	−28	29	10.5

B. A. C. 6222, 18h. 14m. 10s.

August	12	. .	−22	58	40.9

δ Ursæ Minoris, 18h. 14m. 17s.

July	23	. .	+86	36	18.7
August	8	. .			21.6
	25	. .			20.5
September	1	. .			22.7

δ Ursæ Minoris, S. P.

January	16	. .	+86	36	23.4:
	20	. .			21.7
	30	. .			21.2
February	6	. .			20.9
	20	. .			21.2
	24	. .			20.9

O. Arg. S. 18115, S. *, 18h. 14m. 43s.

August	24	. .	−15	8	57.5

O. Arg. S. 18115, N. *, 18h. 14m. 43s.

August	24	. .	−15	8	46.2

Anonymous, 18h. 16m. 12s.

May	30	. .	−29	35	19.0
June	2	. .			18.4

Dorpat 2313, (1st *,) 18h. 17m. 46s.

			°	′	″
July	25	. .	− 6	40	8.9
	26	. .			7.9:
August	11	. .			6.8

Dorpat 2313, (2d *,) 18h. 17m. 46s.

July	25	. .	− 6	40	15.1

O. Arg. S. 18198, 18h. 17m. 52s.

August	15	. .	−21	6	19.8

B. A. C. 6249, 18h. 18m. 16s.

August	19	. .	−30	27	44.6

Anonymous, 18h. 18m. 49s.

May	30	. .	−29	34	50.1
June	2	. .			49.1

23 Sagittarii, 18h. 22m. 35s.

August	14	. .	−23	20	1.2

O. Arg. S. 18314, 18h. 23m. 10s.

August	19	. .	−21	36	43.4

B. A. C. 6292, 18h. 23m. 44s.

July	13	. .	−18	59	16.1

Weisse XVIII, 570, 18h. 25m. 5s.

July	25	. .	−11	22	47.8
August	9	. .			47.5
	12	. .			47.1

O. Arg. S. 18395, 18h. 26m. 26s.

August	24	. .	−17	37	56.1
	25	. .			57.6

1 Aquilæ, 18h. 28m. 9s.

September	6	. .	− 8	19	55.1
	15	. .			55.7

1 Aquilæ, (Ref.)

July	14	. .	− 8	19	55.8

Weisse XVIII, 696, 18h. 30m. 14s.

August	9	. .	−12	47	18.2
	12	. .			17.5
	15	. .			18.0

B. A. C. 6346, 18h. 31m. 11s.

August	29	. .	−23	17	31.8

α Lyræ, 18h. 32m. 31s.

January	10	. .	+38	39	51.2:
	11	. .			51.5
	27	. .			51.7
	30	. .			50.5
March	11	. .			50.2
	17	. .			51.3
	20	. .			50.7
May	31	. .			49.2
June	2	. .			50.3
	9	. .			48.7
	11	. .			48.0
	22	. .			49.9
	28	. .			50.2
July	3	. .			50.2
	5	. .			49.4
	6	. .			50.7
	13	. .			49.7

α Lyræ, 18h. 32m. 31s.—Continued.

			°	′	″
July	17	. .	+38	39	50.3
	20	. .			49.2
	25	. .			48.6
	26	. .			49.7
	28	. .			51.4
August	7	. .			49.7
	8	. .			49.6
	16	. .			48.7
September	6	. .			49.5
	11	. .			48.8

Weisse XVIII, 779, 18h. 32m. 43s.

August	11	. .	−11	13	4.2
	14	. .			4.8
	19	. .			6.5

Weisse XVIII, 792, 18h. 33m. 19s.

August	9	. .	−12	49	10.6
	12	. .			10.4
	15	. .			9.8

Anonymous, 18h. 34m. 17s.

June	17	. .	−37	57	58.7

Anonymous, 18h. 34m. 28s.

June	17	. .	−38	0	13.0

Weisse XVIII, 874, 18h. 36m. 19s.

August	11	. .	−11	27	43.8
	14	. .			42.5
	19	. .			44.2

O. Arg. S. 18625, 18h. 37m. 32s.

August	24	. .	−20	46	38.0

O. Arg. S. 18623, 18h. 37m. 36s.

August	29	. .	−21	7	50.0

Weisse XVIII, 993, 18h. 40m. 27s.

July	28	. .	−12	28	1.8
August	12	. .			2.2
	15	. .			2.8

Weisse XVIII, 1020, 18h. 41m. 42s.

August	25	. .	− 6	8	50.6

Lacaille 7873, 18h. 42m. 13s.

June	2	. .	−39	19	18.6
	11	. .			18.9

β Lyræ, 18h. 45m. 16s.

September	15	. .	+33	12	48.6

β Lyræ, (Ref.)

September	15	. .	+33	12	49.9

ν¹ Sagittarii, 18h. 46m. 20s.

September	1	. .	−22	54	6.8

Anonymous, 18h. 46m. 24s.

September	1	. .	−22	50	40.4

ν³ Sagittarii, 18h. 47m. 16s.

September	1	. .	−22	49	51.1

Anonymous, 18h. 47m. 48s.

June	11	. .	−39	40	15.7
July	13	. .			15.4

θ Serpentis, (1st *,) 18h. 49m. 46s.

			°	′	″
July	20	. .	+ 4	2	12.7
	28	. .			14.7
August	23	. .			12.3

θ Serpentis, (2d *,) 18h. 49m. 49s.

July	20	. .	+ 4	2	7.6
	28	. .			9.7
August	23	. .			7.4

Lacaille 7932, 18h. 50m. 13s.

July	13	. .	−39	42	15.7

50 Draconis, 18h. 50m. 33s.

August	24	. .	+75	16	45.9

50 Draconis, (Ref.)

June	2	. .	+75	16	45.7

Weisse XVIII, 1277, 18h. 51m. 10s.

September	11	. .	− 9	28	46.5:

Weisse XVIII, 1314, 18h. 52m. 54s.

July	13	. .	−12	46	49.3
August	9	. .			49.1
	11	. .			48.6

Weisse XVIII, 1334, 18h. 53m. 29s.

August	23	. .	− 8	17	43.1
	25	. .			45.5

Weisse XVIII, 1335, 18h. 53m. 29s.

August	23	. .	− 8	17	11.0
	25	. .			13.4

Anonymous, 18h. 53m. 43s.

August	12	. .	−38	27	57.9
	15	. .			57.8

Lacaille 7962, 18h. 54m. 23s.

August	12	. .	−38	26	14.3
	15	. .			14.8
September	12	. .			15.5

Weisse XVIII, 1398, 18h. 56m. 2s.

August	9	. .	− 7	31	55.4
	11	. .			55.5
	24	. .			57.0

υ Draconis, 18h. 56m. 2s.

September	1	. .	+71	7	22.7
	15	. .			22.9

Weisse XVIII, 1412, 18h. 56m. 28s.

August	9	. .	− 7	33	3.3
	11	. .			1.6
	24	. .			2.4

Weisse XVIII, 1480, 18h. 58m. 47s.

August	15	. .	− 9	5	53.3
	19	. .			53.9

β Coronæ Australis, 19h. 1m. 4s.

August	19	. .	−39	32	39.3
	29	. .			37.2

O. ARG. N. 18967, 19h. 3m. 9s.

				°	′	″
September	15	.	.	+69	14	52.7

O. ARG. N. 18980, 19h. 3m. 44s.

				°	′	″
September	15	.	.	+69	6	29.3

20 AQUILÆ, 19h. 5m. 37s.

				°	′	″
July	13	.	.	— 8	9	14.3
August	9	.	.			14.3
	11	.	.			14.1

B. A. C. 6565, 19h. 5m. 54s.

				°	′	″
September	1	.	.	—27	5	24.7

LACAILLE 8045, 19h. 7m. 17s.

				°	′	″
August	31	.	.	—33	45	8.6
September	12	.	.			6.6

LACAILLE 8051, 19h. 8m. 3s.

				°	′	″
August	31	.	.	—33	44	48.6
September	12	.	.			50.0

WEISSE XIX, 187, 19h. 9m. 10s.

				°	′	″
June	11	.	.	— 8	54	56.9
August	24	.	.			55.6

23 AQUILÆ, 19h. 11m. 56s.

				°	′	″
September	15	.	.	+ 0	51	3.5
	20	.	.			3.7

δ DRACONIS, 19h. 12m. 31s.

				°	′	″
May	30	.	.	+67	25	58.9
July	20	.	.			59.3

δ DRACONIS, (Ref.)

				°	′	″
May	30	.	.	+67	25	58.0
July	20	.	.			59.9

B. A. C. 6607, 19h. 12m. 50s.

				°	′	″
August	9	.	.	—22	38	28.8
	11	.	.			28.0
	31	.	.			29.4

WEISSE XIX, 341, 19h. 15m. 11s.

				°	′	″
September	13	.	.	— 4	58	49.0
	20	.	.			49.8

ANONYMOUS, 19h. 16m. 5s.

				°	′	″
August	15	.	.	—34	32	3.8

ANONYMOUS, 19h. 16m. 42s

				°	′	″
August	19	.	.	—23	25	20.8
	24	.	.			(17.8)
September	12	.	.			21.5

ANONYMOUS, 19h. 17m. 20s.

				°	′	″
June	2	.	.	—34	39	32.1
	11	.	.			27.9

ANONYMOUS, 19h. 17m. 49s.

				°	′	″
August	19	.	.	—23	23	25.0
	24	.	.			22.1:
September	12	.	.			22.4

τ DRACONIS, S. P., 19h. 18m. 4s.

				°	′	″
February	21	.	.	+73	6	46.0

2 SAGITTÆ, 19h. 18m. 32s.

				°	′	″
September	15	.	.	+16	41	9.7:

3 SAGITTÆ, 19h. 18m. 55s.

				°	′	″
September	15	.	.	+16	42	16.7

ANONYMOUS, 19h. 21m. 14s.

				°	′	″
June	11	.	.	—39	34	54.9
August	12	.	.			56.1

ANONYMOUS, 19h. 21m. 52s.

				°	′	″
September	14	.	.	—32	21	20.4

ANONYMOUS, 19h. 23m. 10s.

				°	′	″
September	12	.	.	—23	23	33.2

ANONYMOUS, 19h. 23m. 53s.

				°	′	″
September	12	.	.	—23	22	6.2

O. ARG. S. 19715, 19h. 26m. 33s.

				°	′	″
August	31	.	.	—19	50	52.4

O. ARG. S. 19732, 19h. 27m. 42s.

				°	′	″
August	31	.	.	—19	51	36.5

ε AQUILÆ, 19h. 29m. 54s.

				°	′	″
May	30	.	.	— 7	18	47.5
September	11	.	.			50.5

κ AQUILÆ, (Ref.)

				°	′	″
September	11	.	.	— 7	18	49.9

LALANDE 37221, 19h. 32m. 12s.

				°	′	″
September	14	.	.	—22	21	24.0

σ^1 SAGITTARII, 19h. 33m. 19s.

				°	′	″
August	29	.	.	—16	35	17.5
September	6	.	.			19.6

LACAILLE 8186, 19h. 33m. 32s.

				°	′	″
August	15	.	.	—36	55	50.3

O. ARG. S. 19880, 19h. 34m. 46s.

				°	′	″
September	12	.	.	—24	40	48.3

ANONYMOUS, 19h. 36m. 45s.

				°	′	″
August	31	.	.	—23	9	47.1

O. ARG. S. 19909, 19h. 36m. 53s.

				°	′	″
August	9	.	.	—23	34	12.8

f SAGITTARII, 19h. 38m. 45s.

				°	′	″
August	15	.	.	—20	4	14.3

γ AQUILÆ, 19h. 40m. 5s.

				°	′	″
July	20	.	.	+10	17	56.0
August	16	.	.			54.8
September	14	.	.			55.9

γ AQUILÆ, (Ref.)

				°	′	″
May	30	.	.	+10	17	53.2
July	20	.	.			52.4

O. ARG. N. 19614, 19h. 42m. 1s.

				°	′	″
September	11	.	.	+58	11	45.3
	12	.	.			44.9

α AQUILÆ, 19h. 44m. 25s.

				°	′	″
August	29	.	.	+ 8	31	36.9

α AQUILÆ, (Ref.)

				°	′	″
July	20	.	.	+ 8	31	36.6

WEISSE XIX, 1150, 19h. 46m. 24s.

				°	′	″
September	14	.	.	—14	30	29.2

56 AQUILÆ, 19h. 47m. 9s.

				°	′	″
August	25	.	.	— 8	54	32.9
September	6	.	.			34.1

57 AQUILÆ, (1st *,) 19h. 47m. 36s.

				°	′	″
September	11	.	.	— 8	33	48.2
	15	.	.			48.9

57 AQUILÆ, (2d *,) 19h. 47m. 36s.

				°	′	″
September	11	.	.	— 8	34	23.6
	15	.	.			24.8

ε DRACONIS, S. P, 19h. 48m. 4s.

				°	′	″
January	12	.	.	+69	56	10.9
February	4	.	.			10.1

WEISSE XIX, 1208, 19h. 48m. 38s.

				°	′	″
June	2	.	.	— 9	5	25.4:
	11	.	.			27.4

DORPAT 2601, 19h. 50m. 17s.

				°	′	″
September	6	.	.	+ 1	34	35.7

LACAILLE 8298, 19h. 52m. 30s.

				°	′	″
September	12	.	.	—39	1	36.9

LACAILLE 8300, 19h. 52m. 30s.

				°	′	″
September	12	.	.	—38	56	15.1

O. ARG. S. 20160, 19h. 54m. 6s.

				°	′	″
August	9	.	.	—17	13	18.5
	11	.	.			19.2

λ URSÆ MINORIS, 19h. 54m. 18s.

				°	′	″
August	25	.	.	+88	55	4.3

λ URSÆ MINORIS, S.P.

				°	′	″
February	21	.	.	+88	55	3.1

LALANDE 38164, 19h. 54m. 30s

				°	′	″
September	14	.	.	—19	27	20.6

DORPAT 2612, (1st *,) 19h. 55m. 3s.

				°	′	″
September	15	.	.	+ 6	35	28.5

DORPAT 2612, (2d *,) 19h. 55m. 3s.

				°	′	″
September	15	.	.	+ 6	35	50.8

WEISSE XIX, 1377, (1st *), 19h. 55m. 17s.

				°	′	″
September	6	.	.	+10	23	29.3
	11	.	.			29.8

WEISSE XIX, 1377, (2d *,) 19h. 55m. 17s.

				°	′	″
September	6	.	.	+10	23	24.8
	11	.	.			24.6

WEISSE XIX, 1394, 19h. 56m. 1s.

				°	′	″
September	6	.	.	+10	22	47.8

B. A. C. 6886, 19h. 57m. 17s.

				°	′	″
May	30	.	.	—33	21	54.1
June	2	.	.			55.5
August	12	.	.			53.7

O. ARG. S. 20217, 19h. 57m. 57s.

				°	′	″
August	15	.	.	—16	44	20.6
	24	.	.			20.2

ANONYMOUS, 19h. 59m. 39s.

				°	′	″
August	31	.	.	—39	10	23.6

O. ARG. S. 20246, 19h. 59m. 54s.

				°	′	″
August	26	.	.	—24	15	14.1
	29	.	.			13.7

O. ARG. S. 20287, 20h. 3m. 43s.

				°	′	″
June	2	.	.	—24	36	30.1:

O. ARG. S. 20294, 20h. 3m. 49s.

				°	′	″
August	9	.	.	—18	12	9.2
	11	.	.			8.5
September	14	.	.			10.9

WEISSE XX, 46, 20h. 4m. 8s.

				°	′	″
August	31	.	.	— 9	13	27.7

O. ARG. S. 20320, 20h. 5m. 50s.

				°	′	″
August	15	.	.	—17	16	1.9
	19	.	.			3.4
	25	.	.			5.4

WEISSE XX, 104, 20h. 6m. 1s.

				°	′	″
September	6	.	.	— 3	22	59.7
	15	.	.			58.5

O. ARG. S. 20343, 20h. 7m. 48s.

				°	′	″
August	19	.	.	—17	14	35.3

ANONYMOUS, 20h. 7m. 50s.

				°	′	″
June	2	.	.	—24	35	19.8

ANONYMOUS, 20h. 8m. 27s.

				°	′	″
August	12	.	.	—24	13	44.8

33 CYGNI, 20h. 10m. 25s.

				°	′	″
August	23	.	.	+56	10	14.2

α^2 CAPRICORNI, 20h. 10m. 52s.

				°	′	″
September	13	.	.	—12	56	43.2

α^2 CAPRICORNI, (Ref.)

				°	′	″
September	14	.	.	—12	56	45.5

LACAILLE 8399, 20h. 10m. 58s.

				°	′	″
August	24	.	.	—33	8	2.6
	31	.	.			2.4

O. Arg. S. 20384, 20h. 11m. 12s.

				°	′	″
August	26	.	.	−24	17	48.8
	29	.	.			47.3

Lacaille 8414, 20h. 13m. 0s.

				°	′	″
August	24	.	.	−33	8	42.8
	31	.	.			42.2

O. Arg. S. 20423, 20h. 13m. 32s.

				°	′	″
August	9	.	.	−17	14	11.8
	11	.	.			10.9

O Arg. S. 20442, 20h. 14m. 51s.

				°	′	″
August	15	.	.	−16	2	8.3
	19	.	.			11.3
	23	.	.			9.0

Anonymous, 20h. 14m. 52s.

				°	′	″
August	26	.	.	−33	27	40.2

O. Arg. S. 20443, 20h. 14m. 58s.

				°	′	″
August	25	.	.	−22	45	22.8

B. A. C. 7063, 20h. 23m. 48s.

				°	′	″
August	9	.	.	−15	29	17.8
	11	.	.			17.1
	12	.	.			17.4

O. Arg. S. 20595, 20h. 25m. 44s.

				°	′	″
August	9	.	.	−15	30	58.8
	11	.	.			58.1
	12	.	.			58.5

Lacaille 8492, 20h. 26m. 44s.

				°	′	″
August	19	.	.	−30	54	54.8

B. A. C. 7111, 20h. 30m. 8s.

				°	′	″
September	12	.	.	−22	53	36.7

Anonymous, 20h. 31m. 0s.

				°	′	″
August	12	.	.	−33	37	45.6
	15	.	.			45.9

τ^2 Capricorni, 20h. 31m. 59s.

				°	′	″
August	23	.	.	−15	24	30.3

B. A. C. 7146, 20h. 33m. 3s.

				°	′	″
August	21	.	.	+15	23	0.9

α Delphini, 20h. 33m. 36s.

				°	′	″
August	21	.	.	+15	27	19.6

α Delphini, (Ref.)

				°	′	″
September	13	.	.	+15	27	18.1

Anonymous, 20h. 33m. 54s.

				°	′	″
August	9	.	.	− 9	5	47.7

α Cygni, 20h. 37m. 0s.

				°	′	″
September	11	.	.	+44	48	59.9

α Cygni, (Ref.)

				°	′	″
September	11	.	.	+44	48	59.5

γ^1 Delphini, 20h. 40m. 38s.

				°	′	″
September	12	.	.	+15	39	28.6

γ^2 Delphini, 20h. 40m. 38s.

				°	′	″
September	12	.	.	+15	39	28.5

Anonymous, 20h. 40m. 38s.

				°	′	″
August	11	.	.	−33	35	54.7
	15	.	.			56.8

B. A. C. 7205, 20h. 41m. 33s.

				°	′	″
August	23	.	.	−26	15	35.5

μ Aquarii, 20h. 45m. 36s.

				°	′	″
August	15	.	.	− 9	28	7.5
	19	.	.			7.9

B. A. C. 7244, 20h. 46m. 24s.

				°	′	″
September	14	.	.	−24	46	8.3

57 Cygni, 20h. 48m. 43s.

				°	′	″
August	29	.	.	+43	53	46.5

Piazzi XX, 401, 20h. 51m. 24s.

				°	′	″
August	21	.	.	+43	52	35.5
	29	.	.			34.7

76 Draconis, S. P., 20h. 51m. 51s.

				°	′	″
March	27	.	.	+82	2	52.5

B. A. C. 7299, S. P., 20h. 53m. 25s.

				°	′	″
March	7	.	.	+80	3	46.3

B. A. C. 7290, 20h. 53m. 45s.

				°	′	″
August	29	.	.	+43	58	0.7

ζ Microscopii, 20h. 54m. 39s.

				°	′	″
August	11	.	.	−39	8	10.9
	15	.	.			9.4

O. Arg. S. 21053, 20h. 55m. 23s.

				°	′	″
September	14	.	.	−19	45	28.5

B. A. C. 7312, 20h. 57m. 33s.

				°	′	″
August	19	.	.	−17	40	39.1
	26	.	.			39.6

ϑ Capricorni, 20h. 58m. 37s.

				°	′	″
August	19	.	.	−17	44	51.3
	26	.	.			51.0

O. Arg. S. 21129, 21h. 0m. 29s.

				°	′	″
August	29	.	.	−22	51	17.4

O. Arg. S. 21138, 21h. 0m. 58s.

				°	′	″
August	26	.	.	−17	14	50.7

3 Piscis Australis, 21h. 5m. 37s.

				°	′	″
September	12	.	.	−28	8	50.9

α Cephei, 21h. 15m. 28s.

				°	′	″
October	10	.	.	+62	2	8.1
	20	.	.			9.3

α Cephei, (Ref.)

				°	′	″
September	14	.	.	+62	2	7.6
October	7	.	.			9.1
	10	.	.			7.6

Anonymous, 21h. 18m. 49s.

				°	′	″
August	15	.	.	−22	23	21.1

b Capricorni, 21h. 21m. 17s.

				°	′	″
August	15	.	.	−22	22	13.9

Weisse XXI, 506, 21h. 23m. 1s.

				°	′	″
August	26	.	.	− 9	10	8.2
September	12	.	.			7.8
	14	.	.			7.0
	19	.	.			8.0

Lacaille 8834, 21h. 23m. 9s.

				°	′	″
November	24	.	.	−26	16	42.7

O. Arg. N. 22321, S. P., 21h. 23m. 40s.

				°	′	″
March	7	.	.	+69	54	45.2

Weisse XXI, 543, 21h. 24m. 35s.

				°	′	″
August	29	.	.	− 9	18	44.3
September	12	.	.			46.1
	14	.	.			45.6
	19	.	.			46.4

β Cephei, S. P., 21h. 26m. 58s.

				°	′	″
March	7	.	.	+69	59	23.5
April	8	.	.			24.6

Lacaille 8849, 21h. 27m. 10s.

				°	′	″
November	24	.	.	−30	16	19.0

O. Arg. S. 21480, 21h. 27m. 26s.

				°	′	″
September	19	.	.	−15	12	17.3
	23	.	.			18.2

Weisse XXI, 623, 21h. 27m. 31s.

				°	′	″
August	26	.	.	− 8	47	17.3
September	16	.	.			18.0
	27	.	.			16.9

B. A. C. 7490, 21h. 27m. 36s.

				°	′	″
August	29	.	.	−20	39	42.5
September	12	.	.			42.7
	14	.	.			42.9
	26	.	.			43.1

7 Piscis Australis, 21h. 29m. 0s.

				°	′	″
October	2	.	.	−33	37	37.4

Weisse XXI, 739, 21h. 32m. 9s.

				°	′	″
September	16	.	.	−14	38	34.3
	23	.	.			37.3

O. Arg. S. 21550, 21h. 32m. 42s.

				°	′	″
September	12	.	.	−20	48	32.4
	14	.	.			31.1
	28	.	.			29.9

O. Arg. S. 21562, 21h. 34m. 8s.

				°	′	″
August	15	.	.	−22	31	0.8
	29	.	.			0.1

Lacaille 8890, 21h. 34m. 16s.

				°	′	″
November	24	.	.	−25	41	27.8

42 Capricorni, 21h. 34m. 28s.

				°	′	″
September	23	.	.	−14	37	33.0

O. Arg. N. 22729, S. P., 21h. 37m. 20s.

				°	′	″
March	18	.	.	+70	43	20.0

ε Pegasi, 21h. 37m. 46s.

				°	′	″
October	10	.	.	+ 9	16	48.4
	16	.	.			54.5
	20	.	.			50.2

ε Pegasi, (Ref.)

				°	′	″
October	7	.	.	+ 9	16	50.1
	10	.	.			49.1

Lacaille 8907, 21h. 37m. 54s.

				°	′	″
November	24	.	.	−28	43	19.1

Weisse XXI, 933, 21h. 39m. 41s.

				°	′	″
September	12	.	.	−12	17	29.7
	14	.	.			28.4
October	2	.	.			28.3

11 Cephei, 21h. 40m. 0s.

				°	′	″
October	21	.	.	+70	42	47.1

11 Cephei, (Ref.)

				°	′	″
October	21	.	.	+70	42	46.9

11 Cephei, S. P.

				°	′	″
March	18	.	.	+70	42	47.2

Anonymous, 21h. 40m. 25s.

				°	′	″
October	12	.	.	− 1	14	41.6
	16	.	.			37.8

27 Aquarii, 21h. 40m. 40s.

				°	′	″
September	28	.	.	+ 2	5	11.8
October	20	.	.			11.3

Anonymous, 21h. 41m. 35s.

				°	′	″
September	26	.	.	+ 1	41	26.2
	28	.	.			29.4

Lacaille 8934, 21h. 42m. 21s.

				°	′	″
November	24	.	.	−28	0	26.0

Weisse XXI, 1002, 21h. 43m. 5s.

				°	′	″
August	26	.	.	−12	12	41.0
September	14	.	.			40.5
October	2	.	.			41.0

Anonymous, 21h. 43m. 28s.

				°	′	″
September	19	.	.	+ 2	5	16.5
October	7	.	.			13.3

Weisse XXI, 1037, 21h. 44m. 36s.

				°	′	″
September	27	.	.	+ 2	29	60.8
October	10	.	.			59.8

Weisse XXI, 1065, 21h. 47m. 6s.

				°	′	″
August	26	.	.	− 7	7	32.8
October	10	.	.			29.6
	12	.	.			32.9

Weisse XXI, 1087, 21h. 47m. 19s.

				°	′	″
August	29	.	.	−11	58	30.5
September	16	.	.			32.4
	26	.	.			30.6
	28	.	.			31.2

ANONYMOUS, 21h. 48m. 0s.

				°	′	″	
September	14	.	.	+ 3	8	21.5	:
	27	.	.			21.8	:

WEISSE XXI, 1106, 21h. 48m. 2s.

September	19	.	.	—12	34	58.9	
	26	.	.			58.6	
	28	.	.			59.1	

B. A. C. 7632, 21h. 48m. 30s.

November	24	.	.	—37	52	3.3	

LACAILLE 8981, 21h. 51m. 58s.

November	24	.	.	—29	40	32.9	

LACAILLE 9012, 21h. 57m. 9s.

November	24	.	.	—29	3	50.9	

λ GRUIS, 21h. 58m. 15s.

October	2	.	.	—40	10	9.4	

O. ARG. S. 21903, 22h. 0m. 27s.

August	26	.	.	—25	19	46.3	
	29	.	.			41.1	:
September	14	.	.			45.2	

B. A. C. 7702, 22h. 0m. 48s.

October	16	.	.	—34	40	33.8	
November	24	.	.			33.7	

O. ARG. N. 23385, 22h. 1m. 17s.

September	12	.	.	+52	59	27.7	
	16	.	.			28.5	

LACAILLE 9036, 22h. 2m. 18s.

October	16	.	.	—34	39	7.8	
November	24	.	.			8.3	

O. ARG. N. 23452, 22h. 2m. 39s.

September	16	.	.	+52	40	21.3	

WEISSE XXII, 113, 22h. 7m. 13s.

August	29	.	.	+ 0	57	61.3	
September	19	.	.			59.2	
	23	.	.			57.8	

WEISSE XXII, 153, 22h. 9m. 58s.

August	26	.	.	+ 1	18	10.0	
September	14	.	.			9.1	
	26	.	.			9.2	

θ AQUARII, 22h. 9m. 55s.

October	16	.	.	— 8	25	44.1	

θ AQUARII, (Ref.)

October	10	.	.	— 8	25	46.0	

ε CEPHEI, 22h. 10m. 14s.

November	27	.	.	+56	23	44.9	

LACAILLE 9091, 22h. 10m. 40s.

October	2	.	.	—37	14	36.3	
November	24	.	.			36.7	

ρ AQUARII, 22h. 13m. 20s.

November	24	.	.	— 8	28	20.6	

LACAILLE 9119, 22h. 16m. 57s.

				°	′	″	
October	7	.	.	—39	47	4.4	
	10	.	.			2.2	

ANONYMOUS, 22h. 16m. 59s.

November	27	.	.	—38	52	3.7	

B. A. C. 7817, 22h. 18m. 59s.

October	2	.	.	—24	20	29.3	

53 AQUARII, (1st*) 22h. 19m. 29s.

November	24	.	.	—17	24	2.4	

53 AQUARII, (2d*) 22h. 19m. 29s.

November	24	.	.	—17	24	7.2	

35 PEGASI, 22h. 21m. 18s.

August	29	.	.	+ 4	2	44.3	
September	14	.	.			44.4	

LACAILLE 9144, 22h. 22m. 8s.

October	12	.	.	—29	19	21.6	
November	27	.	.			20.4	

LACAILLE 9167, 22h. 25m. 50s.

October	2	.	.	—35	48	21.5	
November	27	.	.			22.4	

η AQUARII, 22h. 28m. 41s.

October	25	.	.	— 0	47	11.2	

η AQUARII, (Ref.)

October	25	.	.	— 0	47	11.1	::

WEISSE XXII, 601, 22h. 29m. 39s.

November	27	.	.	+ 7	36	2.3	

LACAILLE 9190, 22h. 30m. 37s.

November	25	.	.	—34	8	33.5	
	27	.	.			34.3	

WASH. Z. LIV, 17, 22h. 31m. 11s.

August	29	.	.	—27	32	38.9	
September	14	.	.			38.3	
	16	.	.			38.9	

ε PISCIS AUSTRALIS, 22h. 33m. 27s.

August	29	.	.	—27	43	13.4	
September	14	.	.			13.3	
October	12	.	.			13.1	

30 CEPHEI, 22h. 34m. 3s.

November	27	.	.	+62	54	32.9	

ζ PEGASI, 22h. 34m. 57s.

October	20	.	.	+10	9	13.2	

ζ PEGASI, (Ref.)

October	7	.	.	+10	9	12.4	
November	24	.	.			12.2	

O. ARG. N. 24533, 22h. 36m. 21s.

September	19	.	.	+53	42	30.1	

O. ARG. S. 22373, 22h. 37m. 20s.

September	16	.	.	—26	58	24.6	
October	2	.	.			24.2	

LACAILLE 9244, 22h. 39m. 34s.

				°	′	″	
November	7	.	.	—33	51	59.0	:
	27	.	.			58.2	

B. A. C. 7944, 22h. 40m. 21s.

November	25	.	.	—38	54	12.7	
	27	.	.			13.1	

LACAILLE 9261, 22h. 41m. 19s.

October	12	.	.	—28	14	43.0	
	19	.	.			41.5	

LACAILLE 9284, 22h. 44m. 45s.

November	7	.	.	—39	38	26.8	:
	24	.	.			26.8	

ι CEPHEI, 22h. 45m. 4s.

October	25	.	.	+65	31	3.4	

ι CEPHEI, (Ref.)

October	25	.	.	+65	31	0.7	

LACAILLE 9290, 22h. 45m. 32s.

October	16	.	.	—29	52	12.8	

δ AQUARII, 22h. 47m. 44s.

November	25	.	.	—16	30	38.7	

LACAILLE 9301, 22h. 48m. 38s.

November	24	.	.	—32	19	30.3	

LACAILLE 9307, 22h. 49m. 7s.

November	24	.	.	—32	15	9.5	

WEISSE XXII, 1017, 22h. 49m. 59s.

October	20	.	.	—10	57	20.8	

B. A. C. 7998, 22h. 51m. 18s.

November	27	.	.	—36	12	51.1	

WEISSE XXII, 1063, 23h. 52m. 11s.

October	5	.	.	— 8	54	28.7	

LACAILLE 9331, 22h. 53m. 21s.

November	13	.	.	—26	19	19.7	:
	24	.	.			18.2	

81 AQUARII, 22h. 54m. 38s.

September	28	.	.	— 7	45	32.9	

LALANDE 45028, 22h. 55m. 6s.

August	29	.	.	— 4	32	19.1	
September	14	.	.			19.6	
	16	.	.			18.5	

LACAILLE 9356, 22h. 56m. 36s.

November	24	.	.	—31	8	40.4	
	25	.	.			41.7	

β PISCIUM, 22h. 57m. 15s.

November	27	.	.	+ 3	7	14.5	

WEISSE XXII, 1223, 22h. 58m. 46s.

August	29	.	.	— 4	57	30.8	
September	14	.	.			32.3	
	28	.	.			32.8	

c^1 AQUARII, 22h. 59m. 41s.

				°	′	″	
November	14	.	.	—24	26	43.9	

WEISSE XXII, 1248, 22h. 59m. 58s.

August	29	.	.	— 4	54	3.9	
September	14	.	.			4.1	
	28	.	.			4.7	

LACAILLE 9288, 23h. 3m. 43s.

November	25	.	.	—30	13	39.5	
	27	.	.			39.0	

O. ARG. S. 22656, 23h. 4m. 13s.

October	12	.	.	—27	37	8.2	
November	24	.	.			7.2	

O. ARG. S. 22657, 23h. 4m. 14s.

October	12	.	.	—27	35	40.9	
November	24	.	.			40.4	

ANONYMOUS, 23h. 7m. 46s.

November	7	.	.	—39	53	7.5	:
	24	.	.			6.1	

ANONYMOUS, 23h. 8m. 53s.

November	27	.	.	—39	58	35.7	

ψ^2 AQUARII, 23h. 11m. 11s.

October	2	.	.	— 9	53	28.9	
	10	.	.			27.5	

LACAILLE 9440, 23h. 12m. 16s.

November	9	.	.	—39	52	5.0	
	24	.	.			3.8	

o CEPHEI, 23h. 13m. 17s.

October	7	.	.	+67	24	2.9	
	16	.	.			4.4	

o CEPHEI, (Ref.)

October	7	.	.	+67	24	1.3	

B. A. C. 8129, 23h. 13m. 59s.

November	13	.	.	— 6	37	1.3	:
	14	.	.			0.9	

12 ANDROMEDÆ, 23h. 14m. 37s.

December	1	.	.	+37	28	23.1	

LACAILLE 9453, 23h. 15m. 55s.

October	5	.	.	—24	9	43.2	
	19	.	.			42.5	
November	24	.	.			43.6	

O. ARG. S. 22798, 23h. 16m. 12s.

October	5	.	.	—24	6	12.7	
November	24	.	.			13.2	

B. A. C. 8154, (1st*) 23h. 17m. 0s.

November	25	.	.	— 9	10	20.4	
	27	.	.			20.1	

B. A. C. 8154, (2d*) 23h. 17m. 1s.

November	25	.	.	— 9	10	18.6	
	27	.	.			19.7	

υ PEGASI, 23h. 18m. 54s.

			°	′	″
November	9	. .	+22	41	21.8
December	1	. .			21.3

RADCLIFFE 6067, 23h. 19m. 1s.

			°	′	″
September	14	. .	+54	22	20.1
	16	. .			20.3
October	2	. .			18.9

WEISSE XXIII, 386, 23h. 20m. 10s.

			°	′	″
October	10	. .	+ 0	59	7.3
	16	. .			9.4
November	8	. .			4.6

κ PISCIUM, 23h. 20m. 16s.

			°	′	″
October	5	. .	+ 0	32	40.3
	20	. .			40.3
November	10	. .			41.7

B. A. C. 8172, 23h. 21m. 0s.

			°	′	″
November	13	. .	−36	15	37.0:

RADCLIFFE 6081, 23h. 21m. 10s.

			°	′	″
September	14	. .	+54	8	62.1
	16	. .			59.8
November	6	. .			61.5

θ PISCIUM, 23h. 21m. 22s.

			°	′	″
September	11	. .	+ 5	39	55.9
	15	. .			55.8

θ PISCIUM, (Ref.)

			°	′	″
September	11	. .	+ 5	39	55.1
	15	. .			56.1
	28	. .			55.7

B. A. C. 8184, 23h. 22m. 50s.

			°	′	″
September	19	. .	− 5	14	23.1:
	23	. .			25.0
October	10	. .			22.2

WEISSE XXIII, 443, 23h. 22m. 56s.

			°	′	″
November	14	. .	+ 0	23	18.9
December	1	. .			18.6

WEISSE XXIII, 449, 23h. 23m. 17s.

			°	′	″
November	14	. .	+ 0	26	52.4
December	1	. .			52.8

WEISSE XXIII, 473, 23h. 24m. 27s.

			°	′	″
August	7	. .	+ 1	38	56.0

b^3 AQUARII, 23h. 24m. 54s.

			°	′	″
November	24	. .	−22	5	9.9

β SCULPTORIS, 23h. 25m. 58s.

			°	′	″
November	9	. .	−38	32	12.5
	13	. .			12.2:

LACAILLE 9524, 23h. 27m. 58s.

			°	′	″
October	16	. .	−35	48	3.9

B. A. C. 8225, 23h. 31m. 17s.

			°	′	″
November	25	. .	−15	48	37.0

LAMONT 9262, 23h. 31m. 31s.

			°	′	″
November	24	. .	− 1	32	43.9
December	1	. .			45.6

LAMONT 9263, 23h. 31m. 35s.

			°	′	″
November	24	. .	− 1	35	17.7
December	1	. .			18.7

LACAILLE 9547, 23h. 32m. 59s.

			°	′	″
November	7	. .	−33	27	6.0:
	9	. .			7.7

ι PISCIUM, 23h. 33m. 13s.

			°	′	″
September	6	. .	+ 4	55	22.3

ι PISCIUM, (Ref.)

			°	′	″
September	6	. .	+ 4	55	22.2
	28	. .			21.8

μ SCULPTORIS, 23h. 33m. 49s.

			°	′	″
October	12	. .	−32	47	27.7
	19	. .			27.4

γ CEPHEI, 23h. 34m. 2s.

			°	′	″
September	15	. .	+76	54	23.8
October	20	. .			24.5

γ CEPHEI, (Ref.)

			°	′	″
September	11	. .	+76	54	25.2
October	7	. .			24.4

i^2 AQUARII, 23h. 39m. 17s.

			°	′	″
November	9	. .	−19	24	5.7
	13	. .			1.6:

LACAILLE 9597, 23h. 40m. 40s.

			°	′	″
November	24	. .	−38	52	41.3
December	1	. .			43.7

LALANDE 46609, 23h. 40m. 57s.

			°	′	″
August	19	. .	− 5	11	0.4
	25	. .			1.5
September	1	. .			2.6

20 PISCIUM, 23h. 41m. 15s.

			°	′	″
November	25	. .	− 3	29	0.5

WEISSE XXIII, 848, 23h. 42m. 4s.

			°	′	″
August	19	. .	− 5	9	26.1
	25	. .			27.0
September	1	. .			28.0

LACAILLE 9605, 23h. 42m. 36s.

			°	′	″
September	19	. .	−28	34	28.2

B. A. C. 8287, 23h. 43m. 54s.

			°	′	″
October	25	. .	−20	57	16.4

WEISSE XXIII, 895, 23h. 45m. 6s.

			°	′	″
September	26	. .	− 6	24	3.0
October	5	. .			4.7
	10	. .			5.2

WEISSE XXIII, 936, 23h. 46m. 43s.

			°	′	″
September	23	. .	− 5	46	6.1
October	2	. .			9.6:
	7	. .			10.1

LACAILLE 9641, 23h. 48m. 20s.

			°	′	″
November	24	. .	−38	5	12.9
December	1	. .			14.0

26 PISCIUM, 23h. 48m. 30s.

			°	′	″
November	14	. .	+ 6	20	54.7

B. A. C. 8314, 23h. 48m. 32s.

			°	′	″
September	6	. .	+73	41	13.0

B. A. C. 8314, (Ref.)

			°	′	″
September	6	. .	+73	41	14.2

SCHJELLERUP 9921, 23h. 49m. 7s.

			°	′	″
August	19	. .	+ 3	22	18.0
September	23	. .			14.5:

1 CETI, 23h. 51m. 40s.

			°	′	″
November	10	. .	−16	34	12.4
	24	. .			14.5

σ CASSIOPEÆ, 23h. 52m. 25s.

			°	′	″
November	13	. .	+55	1	56.8:
	27	. .			52.5

ω PISCIUM, 23h. 52m. 36s.

			°	′	″
October	5	. .	+ 6	8	38.3

ω PISCIUM, (Ref.)

			°	′	″
October	5	. .	+ 6	8	38.6

WEISSE XXIII, 1075, 23h. 53m. 20s.

			°	′	″
November	8	. .	+ 0	21	56.2
December	1	. .			56.3

WEISSE XXIII, 1090, 23h. 53m. 55s.

			°	′	″
November	8	. .	+ 0	20	33.8
December	1	. .			32.4

WEISSE XXIII, 1099, 23h. 54m. 21s.

			°	′	″
August	25	. .	− 5	38	57.2
September	1	. .			59.1
	19	. .			58.0

LACAILLE 9695, 23h. 54m. 41s.

			°	′	″
November	9	. .	−29	26	57.4
	24	. .			53.4

29 PISCIUM, 23h. 55m. 11s.

			°	′	″
October	24	. .	− 3	45	2.4

c^2 PISCIUM, 23h. 55m. 51s.

			°	′	″
November	7	. .	+ 7	45	52.2:

LACAILLE 9705, 23h. 57m. 31s.

			°	′	″
November	25	. .	−30	51	30.4
December	1	. .			32.6

WEISSE 1196, 23h. 58m. 52s.

			°	′	″
November	24	. .	−10	51	3.1

WEISSE 1208, 23h. 59m. 39s.

			°	′	″
November	9	. .	11	30	10.2
	10	. .			5.5

RIGHT ASCENSIONS, DECLINATIONS, AND SEMI-DIAMETERS

OF THE

SUN, MOON, AND PLANETS,

FROM OBSERVATIONS WITH THE

TRANSIT INSTRUMENT AND MURAL CIRCLE,

1865.

RIGHT ASCENSIONS, DECLINATIONS, AND SEMI-DIAMETERS

OF THE

SUN, MOON, AND PLANETS.

SUN.

Date.	Mean time.	Limb.	Right ascension of centre.	C—O	Sidereal time of transit of semi-diameter.	C—O	Limb.	Declination of centre.	C—O	Vertical semi-diameter.	C—O
1865.	m. s.		h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ″	″
Jan. 4	+ 5 28.8	. .	19 2 45.86	+ 0.07	1 10.83	+ 0.08	. .	— 22 40 13.7	+ 0.8	16 19.35	— 0.95
5	5 55.7	. .	19 7 9.12	0.26	1 10.80	0.05	. .	22 33 24.7	0.3	18.00	+ 0.38
9	7 37.9	. .	19 24 38.08	0.05	1 10.57	0.00	. .	22 1 46.7	+ 1.3	17.60	0.65
11	8 25.6	. .	19 33 18.95	0.16	1 10.36	0.05	. .	21 43 18.7	— 1.5	17.00	1.16
12	8 48.6	. .	19 37 38.53	+ 0.16	1 10.30	0.02	. .	21 33 29.2	0.4	17.55	0.55
13	9 11.0	. .	19 41 57.82	— 0.18	1 9.95	+ 0.28	. .	21 23 13.9	— 0.1	16.35	+ 1.68
14	9 32.7	I.	19 46 15.80	+ 0.16	. . .	. .	N.	21 12 34.6	+ 0.9		
16	10 14.1	. .	19 54 50.75	— 0.17	1 10.08	— 0.13	. .	20 49 59.6	— 0.5	19.15	— 1.34
17	10 33.7	. .		. .	. . .	. .	. .	20 38 6.6:	— 0.7	16.40:	+ 1.32
20	11 28.4	II.	20 11 51.54	— 0.15	. . .	. .	. .	20 0 10.7	+ 1.5	17.70	— 0.27
25	12 44.6	. .	20 32 50.50	+ 0.08	1 9.14	0.13	. .	18 49 30.0	+ 1.6	18.40	1.55
27	13 9.6	. .		. .	. . .	. .	S.	18 18 42.5:	— 2.8		
28	13 20.9	. .	20 45 16.56	0.00	1 8.78	— 0.11					
30	13 40.9	. .	20 53 29.72	0.02	1 8.36	+ 0.07	. .	17 30 15.3	+ 1.6	18.00	— 1.81
31	13 49.6	II.	20 57 35.06	0.02	. . .	. .	. .	17 13 22.6:	— 3.0	13.80:	+ 2.25
Feb. 2	14 4.6	. .	21 5 43.09	+ 0.14	1 8.08	0.00	. .	16 38 56.2	+ 0.5	19.00	— 3.24
4	14 16.3	. .		. .	1 7.94	— 0.08					
6	14 24.6	. .	21 21 49.45	— 0.02	1 7.70	— 0.07	. .	15 26 32.8	1.4	16.50	— 1.39
13	14 28.4	II.	21 49 29.20	0.06	. . .	. .	S.	13 10 3.8::	2.4		
14	14 25.9	. .	21 53 23.45	— 0.26	1 6.74	+ 0.01	. .	12 49 37.3	0.6	13.50	+ 0.11
20	13 56.3	. .	22 16 32.75	+ 0.08	1 6.13	0.01	. .	10 43 3.7	+ 1.9	12.10	+ 0.19
21	13 49.0	. .	22 20 21.91	+ 0.21	1 6.02	+ 0.03	. .	10 21 18.3	— 0.3	13.35	1.29
22	13 41.2	II.	22 24 10.82:	— 0.03	. . .	. .	. .	9 59 25.6	— 0.4	10.35	+ 1.48
24	13 23.7	. .	22 31 46.23	+ 0.10	1 5.80	— 0.02	. .	9 15 14.8	+ 1.2	12.40	— 1.04
27	12 53.0	. .	22 43 5.01	+ 0.24	1 5.56	— 0.02	. .	8 7 54.7	+ 0.7	12.50	1.84
Mar. 6	11 23.2	. .	23 9 11.27	— 0.20	1 5.00	+ 0.07					
7	11 8.6	. .	23 12 52.91	0.00	1 4.97	0.04	. .	5 3 40.6	— 2.0	9.30	— 0.61
8	10 53.5	. .		. .	1 4.86	0.10	. .	4 40 19.5	0.2	5.90	+ 2.53
9	10 38.0	. .		. .	1 4.88	+ 0.03	. .				
11	10 6.1	. .	23 27 36.74	0.24	1 4.82	— 0.01	. .	3 29 49.7	1.5	6.90	0.75
13	9 32.9	. .	23 34 56.39	0.05	1 4.67	+ 0.06	. .	2 42 37.3	— 2.0	6.90	0.21
14	9 15.9	. .		. .	1 4.57	+ 0.12	. .	2 19 1.1	+ 0.5	5.65	1.19
16	8 41.2										
17	8 23.6	. .	23 49 32.88	— 0.20	1 4.60	— 0.02	. .	1 7 57.7	— 0.1	5.20	+ 0.83
18	8 5.8	. .	23 53 11.75	+ 0.05	1 4.58	— 0.02	. .	— 0 44 14.6	— 1.0	6.05	— 0.30
23	6 35.1	. .		. .	. . .	. .	N.	+ 1 14 6.1:	+ 2.6		
27	5 31.6	. .	0 25 55.88	+ 0.15	1 4.36	+ 0.09	. .	2 48 17.8	— 0.6	3.30	— 0.08
28	5 3.2	. .		. .	1 4.37	0.09	. .	3 11 43.0	0.7	1.70	+ 1.24
29	4 44.8	. .		. .	. . .	+ 0.10	. .	3 35 5.5	1.8	2.00	0.66
April 1	3 50.1	. .	0 44 7.16	— 0.07	1 4.59	— 0.09	. .	4 44 43.1	1.4	16 1.00	0.84
3	3 14.1	. .		. .	1 4.44	+ 0.10	. .	5 30 42.5	0.9	15 59.40	1.91
4	2 56.3	. .		. .	1 4.53	+ 0.04	. .	5 53 34.7	1.7	58.70	2.34
8	1 46.9	. .	1 9 39.22	+ 0.17	1 4.78	— 0.08	. .	7 23 54.9	1.4	59.00	0.96
13	0 25.6	. .	1 28 0.48	0.12	1 4.90	+ 0.01	. .	9 13 58.3	0.5	58.40	+ 0.19
14	+ 0 10.3	. .	1 31 41.78	0.03	1 4.92	+ 0.04	. .	9 35 32.8	0.2	58.40	— 0.08
17	— 0 33.5	. .	1 42 47.44	0.16	1 5.14	— 0.02	. .	10 39 21.0	2.0	58.15	— 0.64
22	1 38.1	. .	2 1 25.51	0.07	1 5.41	+ 0.02	. .	12 22 3.6	0.3	53.45	+ 2.74
24	2 0.7	. .	2 8 55.77	0.22	1 5.62	— 0.05	. .	13 1 49.0	2.5	54.80	0.89
25	2 11.3	. .	2 12 41.65	0.26	1 5.63	0.09	. .	13 21 21.0	1.9	54.70	0.99
26	2 21.4	. .	2 16 28.20	0.12	1 5.74	— 0.03	. .	13 40 40.2	1.6	54.40	0.79
27	2 31.1	. .	2 20 15.20	0.03	1 5.70	+ 0.08	. .				
28	— 2 40.2	II.	2 24 2.56	+ 0.08	. . .	. .	. .	+ 14 18 40.3	— 3.4	15 53.20	+ 1.50

SUN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	m. s.		h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ″	″
May 2	— 3 11.5	. .		. .	. . .	. .	. .	+ 15 31 41.6	— 0.8	15 51.85	+ 1.93
3	3 18.1	. .	2 43 7.33	+ 0.11	1 6.28	— 0.03	S.	15 49 19.5	0.4		
4	3 24.1	. .	2 46 57.93	+ 0.05	1 6.30	+ 0.03	. .	16 6 43.2	1.6	51.65	1.68
6	3 34.4	. .	2 54 40.81	— 0.11	1 6.42	+ 0.07	. .	16 40 39.2	— 0.8	51.85	1.04
8	3 42.6	II.	3 2 25.72	— 0.08	. . .	. .	. .	17 13 28.4	+ 0.1	51.60	0.87
11	3 50.5	. .		. .	. . .	. .	. .	18 0 34.1	0.1	49.80	2.04
12	3 52.0	. .	3 18 2.26	+ 0.11	1 7.08	— 0.09	. .	18 15 39.9	0.3	49.45	2.18
13	3 53.0	. .	3 21 57.94	0.06	1 7.11	— 0.04	. .	18 30 28.4	+ 0.4	50.85	0.57
15	3 53.0	. .		. .	. . .	. .	. .	18 59 8.5	— 1.5	50.05	0.97
16	3 52.2	. .	3 33 48.42	+ 0.02	1 7.25	+ 0.07	. .	19 12 59.1	1.0	49.60	1.22
17	3 50.7	. .	3 37 46.47	— 0.04	1 7.36	0.04					
18	3 48.7	. .	3 41 45.07	— 0.06	1 7.34	0.14	. .	19 39 41.8	0.3	48.20	2.23
22	3 35.0	. .		. .	. . .	. .	. .	20 29 8.6	2.0	47.35	2.35
23	3 30.3	. .	4 1 46.30	+ 0.01	1 7.83	+ 0.03					
24	3 25.0	. .	4 5 48.03:	0.16	1 (8.30)	—(0.37)					
25	3 19.2	. .	4 9 50.53	+ 0.04	1 8.02	0.02	. .	21 2 32.8	1.9	48.25	0.96
29	2 51.1	.	4 26 5.01	— 0.12	1 8.28	— 0.03	. .	21 41 59.4	1.2	48.25	0.36
30	2 43.0	II.	4 30 9.49	+ 0.08	. . .	. .	. .	21 50 54.5	0.4	48.25	0.22
31	2 34.5	. .		. .	1 8.32	+ 0.05	. .	21 59 28.9	1.6	45.70	2.64
June 1	2 25.6	. .		. .	. . .	. .	. .	22 7 37.5	0.0	47.25	0.96
2	2 16.3	. .	4 42 26.24	— 0.21	1 8.46	0.03	. .	22 15 24.0	0.5	46.80	1.28
3	2 6.6	. .	4 46 32.23	+ 0.03	1 8.48	0.06	. .	22 22 49.0	— 0.7	47.20	+ 0.76
5	1 46.4	. .	4 54 45.67	0.06	1 8.62	0.02	. .	22 36 25.2	+ 0.3	48.70	— 0.96
8	1 13.6	. .	5 7 8.16	+ 0.06	1 8.68	0.09	. .	22 53 52.8	— 0.1	45.90	+ 1.51
9	1 2.2	. .	5 11 16.35	— 0.08	1 8.74	+ 0.06	. .	22 58 54.3	0.6	45.70	1.61
10	0 50.5	. .		. .	. . .	. .	. .	23 3 30.6:	0.1	44.10:	3.11
14	— 0 1.5	. .	5 31 59.87	— 0.02	1 8.94	— 0.02	. .	23 17 54.5	1.1	45.40	1.44
17	+ 0 36.8	. .	5 44 27.92	+ 0.03	1 8.99	0.03	. .	23 24 22.8:	0.5	45.00:	1.61
19	1 2.8	. .	5 52 47.14	+ 0.01	1 9.01	— 0.04	. .	23 26 38.4	0.9	44.50	1.99
22	1 42.0	. .		. .	. . .	. .	. .	23 26 55.2:	0.6	43.90:	+ 2.42
23	1 55.0	II.	6 9 25.84	— 0.16							
24	2 7.9	. .	6 13 35.31	0.12	1 8.94	+ 0.02	. .	23 25 3.7	— 1.6	46.30	— 0.06
27	2 45.9	. .	6 26 3.04	— 0.06	1 8.84	0.05	. .	23 19 7.4:	+ 0.7	45 25:	+ 0.90
28	2 58.2	. .	6 30 11.91	0.00	1 8.84	0.02	. .	23 16 22.0	— 1.1	44.50	1.64
29	3 10.4	. .	6 34 20.56	+ 0.06	1 8.82	0.01	. .	23 13 8.2	+ 1.0	45.25	0.89
30	3 22.2	. .	6 39 29.06	0.02	1 8.74	+ 0.06	. .	23 9 33.9	— 0.8	44.35	1.79
July 3	3 56.2	. .	6 50 52.77	0.05	1 8.72	— 0.02					
6	4 27.3	. .		. .	. . .	. .	. .	22 39 31.7	1.2	44.50	1.70
7	4 37.0	. .	7 7 19.82	0.11	1 8.48	+ 0.02	. .	22 33 7.3	0.5	45.90	0.32
8	4 46.2	. .	7 11 25.53	+ 0.25	1 8.52	— 0.07	. .	22 26 21.3	1.7	45.05	1.20
11	5 11.6	. .	7 23 40.90	— 0.02	1 8.24	+ 0.03					
13	5 26.4	. .	7 31 48.60	+ 0.19	1 8.10	+ 0.03	. .	21 46 39.2	1.0	46.30	0.12
14	5 33.1	. .	7 35 51.87	0.19	1 8.16	— 0.10	. .	21 37 34.1	— 0.2	45.50	0.97
18	5 55.0	. .	7 52 0.23	+ 0.06	1 7.73	+ 0.04	. .	20 57 37.3	+ 0.1	45.70	0.99
19	5 59.2	. .	7 56 1.11	— 0.04	1 7.70	0.09					
20	6 2.9	. .	8 0 1.27	+ 0.04	1 7.56	+ 0.05	. .	20 35 30.0	+ 0.6	45.10	1.74
21	6 6.0	II.	8 4 0.97	+ 0.02	. . .	. .	. .	20 23 56.5	— 0.7	45.75	1.17
22	6 8.6	II.	8 8 0.18	— 0.06	. . .	. .	N.	20 11 59.5	+ 0.8		
24	6 12.0	. .	8 15 56.76	0.09	1 7.29	0.00	. .	19 47 9.1	— 0.1	46.75	+ 0 44
26	6 13.0	. .	8 23 50.85	— 0.01	1 7.17	— 0.04	. .	19 20 58.7	0.3	47.50	— 0.11
28	6 11.7	. .	8 31 42.55	+ 0.01	1 6.91	+ 0.05	. .	18 33 33.4	1.2	46.55	+ 1.08
29	6 10.0	. .		. .	. . .	. .	. .	18 39 22.1	1.4	47.05	0.70
Aug. 2	. . .	. .		. .	. . .	. .	S.	17 39 35.7:	— 1.6		
3	5 52.6	. .	8 55 2.78	0.05	1 6.46	— 0.02	. .	17 23 53.7	0.0	46.60	1.82
4	5 47.3	. .	8 58 53.96	0.07	1 6.32	+ 0.03	. .	17 7 56.4	+ 0.1	47.65	+ 0.91
8	5 20.0	. .	9 14 12.68	0.17	1 6.00	0.01	. .	16 1 24.6:	— 0.8	49.35:	— 0.19
9	5 11.7	. .	9 18 0.99	0.11	1 5.91	0.02	. .	15 44 7.8	1.6	48.00	+ 1.31
11	4 53.4	. .	9 25 35.78	0.11	1 5.76	0.00	. .	15 8 46.2	0.7	49.95	— 0.32
12	4 43.5	. .		. .	1 5.58	+ 0.10					
16	3 58.4	. .	9 44 23.37	+ 0.11	1 5.38	— 0.02	. .	13 36 14.4	— 0.9	50.10	+ 0.40
19	3 19.4	. .	9 55 34.01	— 0.02	1 5.24	— 0.00	. .	12 38 2.5	+ 1.2	51.25	— 0.20
21	2 51.0	. .	10 2 58.61	0.00	1 4.94	+ 0.06	. .	11 58 17.7	— 1.7	50.35	+ 1.10
24	2 5.0	. .	10 14 2.13	+ 0.01	1 4.74	+ 0.08	. .	10 51 10.1	+ 0.4	51.05	1.02
25	1 48.8	II.	10 17 42.46	— 0.01	. . .	. .	. .	10 36 27.0	+ 0.4	52.00	0.29
26	1 32.1	. .	10 21 22.34	0.00	1 4.71	— 0.01	. .	10 15 35.8	— 1.6	51.70	0.81
28	0 57.7	. .	10 28 40.92	0.03	1 4.60	0.01	. .	9 33 19.0	+ 0.1	51.80	1.15
30	+ 0 21.8	. .	10 35 58.10	— 0.04	1 4.57	— 0.08					
Sept. 1	— 0 15.4	. .	10 43 13.80	0.00	1 4.27	+ 0.14	. .	8 7 4.4	— 1.4	50.80	3.09
5	1 33.4	II.	10 57 41.71	+ 0.14	. . .	. .	. .	6 38 41.0	+ 0.7	52.30	2.55
6	1 53.5	. .	11 1 18.18	+ 0.07	1 4.30	— 0.07	. .	6 16 18.7	0.5	15 53.70	+ 1.39
		. .		. .	. . .	. .	N.	+ 5 53 49.6	+ 0.7		

SUN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	m. s.		h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ″	″
Sept. 11	. . .	. .		. .	. . .	. .	. .	+ 4 22 59.0	— 0.1	15 53.80	+ 2.51
12	— 3 57.3	. .	11 22 53.24	+ 0.11	1 4.07	+ 0.02	S.	4 0 2.2	+ 1.3		
14	4 39.4	. .	11 30 4.48	— 0.19	1 4.03	+ 0.04	. .	3 13 59.8	0.2	56.40	0.68
15	5 0.5	. .	11 33 39.75	0.04	1 4.08	— 0.01	. .	2 50 51.0	1.6	56.95	0.39
16	5 21.5	. .	11 37 15.16	— 0.04	1 4.04	+ 0.03	. .	2 27 40.5	1.3	55.50	2.09
19	6 24.7	. .		. .	. . .	. .	. .	1 17 51.8	1.2	58.15	0.23
20	6 45.7	. .		. .	. . .	. .	. .	0 54 31.7	0.6	56.85	1.80
21	7 6.6	. .	11 55 12.54	+ 0.03	1 4.05	+ 0.04	. .	0 31 8.7	1.4	58.80	0.12
22	7 27.4	. .	11 58 48.10	0.16	1 4.13	— 0.03	. .	+ 0 7 44.6	1.8	58.20	1.00
23	7 48.1	. .	12 2 24.04	0.02	1 4.17	0.05	. .	— 0 15 37.7	+ 0.2	15 58.30	1.17
26	8 49.3	. .	12 13 12.08	0.20	1 4.22	0.02	. .	1 25 50.9	— 1.0	16 0.05	0.25
27	9 9.4	. .	12 16 48.63	0.06	1 4.29	— 0.06	. .	1 49 17.3	+ 1.3	15 58.90	1.68
28	9 29.3	. .	12 20 25.16	0.14	1 4.18	+ 0.08	. .	2 12 40.5	1.3	59.20	1.66
29	9 49.0	. .	12 24 2.10	+ 0.03	1 4.24	+ 0.06	. .	2 36 2.6	1.3	15 59.50	1.45
30	10 8.4	. .	12 27 39.38	— 0.18	1 4.37	— 0.03					
Oct. 5	11 41.1	. .	12 45 48.86	+ 0.12	1 4.56	+ 0.03	N.	4 55 30.1:	+ 2.3		
7	12 15.7	. .	12 53 7.17:	0.24	1 4.75	— 0.04	. .	5 41 29.9	— 1.3	16 3.10	0.28
9	12 48.6	. .	13 0 27.48	0.08	1 4.86	0.01					
10	13 4.3	. .	13 4 8.12	0.21	1 4.91	0.00	S.	6 50 1.5	1.2		
11	13 19.6	. .	13 7 49.44	0.16	1 5.02	— 0.04	. .	7 12 41.9:	— 1.0	3.80	0.67
12	13 34.3	. .	13 11 31.28	0.11	1 4.99	+ 0.06	. .	7 35 18.2	+ 0.9	2.70	+ 1.74
16	14 27.7	. .	13 26 23.94	+ 0.12	1 5.40	— 0.02	. .	9 4 28.9	— 0.1	6.00:	— 0.18
17	14 39.6	. .	13 30 8.69	0.00	1 5.43	+ 0.04	. .	9 26 25.5:	— 3.0	4.00:	+ 2.09
20	15 11.5	. .	13 41 26.37	— 0.04	1 5.74	0.00	. .	10 31 36.8	+ 0.1	5.75	1.15
21	15 20.9	. .	13 45 13.33	+ 0.17	1 5.78	0.06	. .	10 52 59.6	— 1.7	4.70	2.47
23	15 37.6	. .	13 52 49.84	— 0.03	1 5.97	0.06	. .	11 35 21.2	+ 0.6	6.00	+ 1.70
25	15 51.6	. .	14 0 28.85	+ 0.02	1 6.17	0.06	. .	12 16 59.9	2.3	10.40	— 2.16
26	15 57.6	. .	14 4 19.20:	+ 0.26	1 6.30	0.03	. .	12 37 28.4	+ 0.8	7.40	+ 1.11
30	16 14.0	. .	14 19 49.18	0.00	1 6.70	0.07					
Nov. 1	16 17.7	. .	14 27 38.64	— 0.03	1 6.99	+ 0.01	. .	14 36 15.9	— 0.8	8.60	1.46
6	16 12.7	II.	14 47 26.37	— 0.02	. . .	. .	. .	16 8 49.5	+ 0.2	10.50	0.77
7	16 9.2	. .	14 51 26.21	+ 0.21	1 7.74	— 0.02	. .	16 26 33.0:	0.0	10.80:	0.70
8	16 4.9	. .	14 55 27.29	0.06	1 7.96	0.12	. .	16 44 0.2	+ 0.1	11.20	+ 0.52
9	15 59.6	. .		. .	. . .	. .	N.	17 1 10.7	+ 0.7		
10	15 53.6	. .	15 3 31.76	0.04	1 8.26	0.18	. .	17 18 2.3:	— 0.3	13.80:	— 1.64
11	15 46.6	. .	15 7 35.21	+ 0.13	1 8.27	0.07					
13	15 30.0	. .	15 15 45.07	— 0.04	1 8.46	— 0.02	. .	18 6 52.9	+ 0.6	12.65	+ 0.15
14	15 20.5	. .		. .	. . .	. .	. .	18 22 32.8	1.4	11.75:	+ 1.26
15	15 10.0	. .	15 23 57.97	+ 0.19	1 8.60	+ 0.08					
16	14 58.8	. .	15 28 5.86	0.16	1 8.74	0.05	. .	18 52 53.4:	2.3	15.00:	— 1.58
18	14 33.7	. .	15 36 24.27	0.01	1 8.98	+ 0.03					
24	12 59.2	. .	16 1 38.38	0.05	1 9.72	— 0.05	. .	20 40 13.9	1.1	14.30	+ 0.67
25	12 40.7	. .	16 5 53.40	0.07	1 9.80	0.03	S.	20 52 0.8::	3.1		
27	12 1.7	. .	16 14 25.65	+ 0.05	1 9.99	0.02	. .	21 14 18.0::	1.6	15.50::	0.00
28	11 41.2	. .	16 18 42.95	— 0.08	1 10.18	0.11	. .	21 24 52.5:	2.6	19.95::	— 4.29
Dec. 1	10 35.5	. .	16 31 28.22	+ 0.16	1 10.40	— 0.05	. .	21 54 3.7	+ 0.8	15.50	+ 0.64
2	10 12.3	. .		. .	. . .	. .	S.	22 2 55.9	— 1.1		
4	9 24.2	. .	16 44 39.39	0.16	1 10.53	+ 0.07	. .	22 19 28.5	+ 0.3	14.50	2.06
5	8 59.3	. .		. .	. . .	. .	. .	22 27 4.0:	— 0.9	15.30:	1.39
8	7 41.4	. .	17 2 8.86	+ 0.05	1 11.06	— 0.20	. .	22 47 16.3	0.2	16.40	+ 0.64
14	4 53.5	. .		. .	. . .	. .	. .	23 15 26.6:	1.3	20.50	— 2.88
16	3 54.9	. .	17 37 28.61	— 0.20	1 11.33	0.11	. .	23 21 7.4:	3.0	18.75	+ 0.97
21	1 25.6	. .	17 59 40.92	+ 0.06	1 11.34	0.04	. .	23 27 13.3:	— 0.6	19.70	— 1.60
22	0 55.5	. .	18 4 7.87	— 0.18	1 11.55	— 0.25	. .	23 27 2.2	+ 0.4	16.80	+ 1.37
23	— 0 25.4	.	18 8 34.36	+ 0.02	1 11.26	+ 0.03	. .	23 26 22.5:	+ 1.1	19.60	— 1.38
29	+ 2 32.5	. .	18 35 11.81	+ 0.29	1 11.11	+ 0.07	. .	— 23 12 25.3	— 1.3	16 18.10	+ 0.32

MOON.

Date.	Mean time of transit of centre.	Limb.	Right ascension of Moon's limb.	C—O Peirce.	C—O Hansen.	Limb.	Declination of centre.	C—O Peirce.	C—O Hansen.
1865.	h. m.		h. m. s.	s.	s.		° ′ ″	″	″
January 4	6 8.7	I.	1 5 49.04	— 0.11	— 0.01	S.	+ 8 49 22.8	+ 0.6	— 1.8
5	7 0.8	I.	2 2 5.11	0.27	— 0.13	S.	12 52 28.0	— 0.8	— 2.2
7	8 47.8	I.	3 57 12.42	0.35	0.00	S.	18 22 17.2	+ 1.0	+ 0.8
10	11 27.9	I.	6 49 34.58	— 0.01	+ 0.08				
11	12 18.1	II.	7 46 4.93	+ 0.13	0.02	N. & S.	16 15 50.2	3.5	2.5
12	13 6.0	II.	8 38 0.46	0.27	+ 0.06	S.	13 24 14.0	0.4	+ 0.4
14	14 35.4	II.	10 15 28.61	0.16	— 0.01				
18	17 24.8	II.	13 21 6.48	0.26	+ 0.18				
19	18 9.4	II.	14 9 53.07	+ 0.43	0.30				
30	3 11.0	I.	23 50 4.57	— 0.04	+ 0.01				
February 1	4 57.4	I.	1 44 45.33	0.04	— 0.12				
2	5 50.9	I.	2 42 17.45	0.13	0.17				
4	7 38.2	I.	4 37 50.34	0.23	0.09				
5	8 31.3	I.	5 35 1.03	0.24	0.05				
6	9 23.2	I.	6 30 59.37	— 0.40	— 0.20	N.	18 43 3.4	2.2	— 0.5
8	. . .	.		. .	. .	N.	14 29 48.9	2.3	— 0.8
13	14 38.9	II.	12 17 14.95	+ 0.39	+ 0.25				
14	15 21.3	II.	13 3 46.58	0.28	0.17				
19	19 20.2	II.	17 23 8.12	+ 0.15	0.36				
20	20 14.8	II.	18 21 51.30	— 0.10	+ 0.36				
March 4	6 27.5	I.	5 17 20.46	0.01	— 0.19	N.	19 12 32.4	4.8	+ 2.3
5	7 20.1	I.	6 14 0.56	0.01	0.13				
6	8 10.7	I.	7 8 40.79	0.15	0.19	N.	17 27 43.2	2.9	+ 0.3
7	8 59.0	I.	8 1 9.52	— 0.08	— 0.10	N.	15 13 51.8	3.0	— 0.2
11	11 55.2	I.	11 13 37.67	+ 0.12	+ 0.20	N. & S.	+ 1 9 28.2:	+ 1.5	0.5
11		II.	11 15 39.43	0.13	0.20				
13	12 37.2	II.	12 48 9.92	0.33	0.40	. .	— 6 42 29.8	— 1.0	0.6
17	16 22.1	II.	16 7 0.03	0.45	0.31				
18	17 12.4	II.	17 1 26.92	0.34	0.22				
19	18 4.6	II.	17 57 41.68	+ 0.08	0.21				
20	18 58.1	II.	18 55 19.36	— 0.20	0.37				
23	21 42.4	II.	21 51 58.42	0 71	+ 0.41				
April 1	5 13.4	I.	5 53 22.40	— 0.01	— 0.16	N. & S.	+ 18 56 52.2	+ 1.4	0.9
2	6 5.9	I.	6 50 0.77	+ 0.10	0.12				
5	8 28.1	I.	9 24 29.07	0.18	0.11				
6	9 11.5	I.	10 11 57.83	0.09	— 0.15	N.	6 18 8.2	0.6	— 0.7
7	9 53.9	I.	10 58 23.73	0.24	+ 0.07	N.	+ 2 25 20.3	+ 1.9	+ 0.3
8	10 35.8	I.	11 44 26.27	0.10	0.04				
13	14 19.3	II.	15 50 20.50	0.01	0.24				
15	16 0.1	II.	17 39 16.80	+ 0.03	0.18				
18	18 37.8	II.	20 29 17.97	— 0.60	0.12				
21	21 17.5	II.	23 21 14.82	1.13	+ 0.19				
28	3 0.2	I.	5 26 15.10	— 0.32	— 0.04				
May 1	5 37.7	I.	8 16 5.08	+ 0.08	0.14				
2	6 24.4	I.	9 6 50.57	0.26	0.07				
3	7 8.8	I.	9 55 20.02	0.44	— 0.05				
6	9 15.7	I.	12 14 29.82	0.74	+ 0.21	N.	— 4 6 22.8	— 0.9	0.3
7	9 58.4	I.	13 1 14.76	+ 0.57	0.13				
12	13 56.6	II.	17 21 57.49	— 0.10	0.23	N.	19 4 24.4	+ 2.0	2.9
13	14 48.9	II.	18 18 19.27	0.11	0.35				
14	. . .	.		. .	. .	N.	17 12 15.6	+ 1.4	2.1
15	16 34.0	II.	20 11 34.25	0.09	0.48				
16	17 26.0	II.	21 7 28.70	0.21	0.47				
17	18 17.6	II.	22 3 20.66	— 0.34	0.44				
29	4 17.2	I.	8 45 47.36	+ 0.26	0.06				
30	5 3.4	I.	9 36 6.07	0.34	0.04				
June 1	6 30.2	I.	11 10 58.26	0.72	0.13	N.	+ 1 27 48.1	— 2.9	0.5
2	7 12.3	I.	11 57 7.81	0.81	0.16	N.	— 2 31 10.8	2.8	+ 0.1
3	7 54.6	I.	12 43 31.00	0.91	0.17	N.	6 23 52.7	3.0	— 0.4
4	8 37.9	I.	13 30 52.86	0.93	0.20	N.	10 2 14.4	— 0.7	+ 1.4
5	9 22.8	I.	14 19 51.39	0.84	0.29	N.	13 17 14.9	+ 0.8	1.0
7	10 59.1	I.	16 4 13.13	0.45	0.19	N.	17 56 25.3	2.1	1.5
8	11 50.4	I.	16 59 36.48	0.29	0.17	N. & S.	— 18 59 28.1	+ 1.1	+ 1.1
8		II.	17 1 51.39	+ 0.32	+ 0.20				

MOON.

Date.	Mean time of transit of centre.	Limb.	Right ascension of Moon's limb.	C—O Peirce.	C—O Hansen.	Limb.	Declination of centre.	C—O Peirce.	C—O Hansen.
1865.	h. m.		h. m. s.	s.	s.		° ′ ″	″	″
June 9	12 43.3	II.	17 58 48.06	+ 0.33	+ 0.26				
11	14 30.3	II.	19 54 1.53	— 0.14	0.22				
18	20 36.4	II.	2 28 44.91	— 0.67	0.41				
27	3 41.5	I.	10 4 20.32	+ 0.52	0.10				
28	4 25.2	I.	10 52 8.67	0.48	0.01				
29	5 7.8	I.	11 38 48.34	0.55	0.03				
July 2	7 16.7	I.	13 59 51.76	0.70	0.19				
3	8 2.5	I.	14 49 39.41	0.86	0.35	N.	— 14 47 39.3	— 0.4	+ 0.1
4	8 50.5	I.	15 41 43.36	0.61	0.16				
5	9 40.9	I.	16 36 11.09	0.57	0.31	N.	18 35 34.5	+ 4.4	2.8
6	10 33.4	I.	17 32 47.97	0.03	0.00	N.	19 5 48.8	2.8	1.4
7	11 27.5	I.	18 30 54.68	+ 0.11	0.14	N. & S.	18 29 45.3	1.4	+ 0.5
13	16 46.8	II.	0 17 0.21	— 0.67	0.30				
17	20 22.0	II.	4 9 38.68	— 0.66	0.32				
26	3 3.2	I.	11 20 13.67	+ 0.55	+ 0.16				
27	3 45.7	I.	12 6 49.48	0.37	— 0.07				
August 2	8 21.6	I.	17 7 2.90	0.47	+ 0.06				
3	9 14.6	I.	18 4 5.08	0.25	0.03	N. & S.	— 18 47 36.2	1.4	— 0.7
7	12 53.7	II.	22 1 49.47	+ 0.03	0.39				
8	13 47.6	II.	22 59 50.57	— 0.09	0.41				
9	14 41.1	II.	23 57 28.79	0.47	0.22	N.	+ 1 47 50.8	+ 0.3	0.1
10	15 34.6	II.	0 55 6.97	0.67	0.22				
11	16 28.6	II.	1 53 8.71	0.69	0.33	S.	+ 10 52 27.6	— 3.3	— 2.3
12	17 23.1	II.	2 51 48.13	— 0.86	+ 0.15				
24	2 24.6	I.	12 35 55.82	+ 0.42	0.00				
25	3 7.4	I.	13 22 46.22	0.37	— 0.06				
26	3 51.0	I.	14 10 27.94	0.36	— 0.06				
27	4 36.1	I.	14 59 32.22	0.55	+ 0.12				
28	5 22.9	I.	15 50 23.83	0.45	— 0.02				
29	6 11.7	I.	16 43 16.06	0.63	+ 0.11				
30	7 2.5	I.	17 38 9.18	0.52	— 0.07				
31	7 55.1	I.	18 34 46.86	0.66	+ 0.09	N.	— 18 9 29.0	+ 3.5	+ 1.6
Septemb'r 1	8 48.9	I.	19 32 41.76	0.54	0.13	S.	— 18 28 0.1	1.5	— 0.9
2	9 43.5	I.	20 3 21.44	+ 0.34	0.17				
5	12 28.3	I.	23 28 25.88	— 0.11	0.44				
5		II.	23 30 44.50	0.25	0.30				
6	13 23.5	II.	0 30 6.20	0.36	0.25	N.	+ 4 24 42.2	+ 2.8	+ 1.7
11	18 4.4	II.	5 31 26.45	— 0.21	0.45				
23	2 32.7	I.	14 42 16.65	+ 0.78	0.26				
26	4 54.9	I.	17 16 36.99	0.52	0.04				
27	5 45.3	I.	18 11 8.42	0.59	0.08	N. & S.	— 18 24 8.7	— 0.1	+ 0.2
28	6 37.0	I.	19 6 51.65	0.53	0.05	S.	17 13 53.9	— 0.4	— 1.1
29	7 29.5	I.	20 3 27.92	0.54	0.14	S.	15 2 6.2	+ 2.6	+ 1.3
October 1	9 16.4	I.	21 58 30.84	0.33	0.16				
2	10 10.7	I.	22 56 57.71	+ 0.02	0.04	S.	— 3 11 3.7	— 2.2	— 2.3
5	12 59.9	II.	2 0 46.77	— 0.21	0.21	N.	+ 11 9 18.0	+ 1.0	0.5
6	13 58.5	II.	3 3 27.64	+ 0.11	0.25				
7	14 57.4	II.	4 6 27.30	0.49	0.33				
8	15 55.6	II.	5 8 46.23	0.50	0.24				
9	16 52.1	II.	6 9 21.25	+ 0.17	0.14				
10	17 46.1	II.	7 7 24.65	— 0.20	0.08				
25	4 30.9	I.	18 46 55.72	+ 0.48	0.19				
26	5 21.7	I.	19 41 46.85	0.36	0.18				
28	7 4.2	I.	21 32 27.85	0.06	0.17				
29	7 56.2	I.	22 28 31.69	0.09	0.23				
30	8 49.2	I.	23 25 33.98	0.07	0.14	S.	— 0 48 9.4	— 1.6	1.6
Novemb'r 1	10 39.9	I.	1 24 27.95	0.12	0.20	S.	+ 8 47 56.1	— 1.6	— 2.0
5	14 38.1	II.	5 41 27.63	0.55	0.29				
8	17 20.5	II.	8 36 2.69	0.11	0.18				
9	18 8.2	II.	9 27 48.94	0.07	0.25				
10	18 53.5	II.	10 17 4.88	0.10	0.24				
11	19 36.9	II.	11 4 35.66	0.22	0.33				
12	20 19.4	II.	11 51 8.65	0.34	0.42				
13	21 1.7	II.	12 37 28.87	+ 0.37	+ 0.43				

MOON.

Date.	Mean time of transit of centre.	Limb.	Right ascension of Moon's limb.	C — O		Limb.	Declination of centre.	C — O	
				Peirce.	Hansen.			Peirce.	Hansen.
1865.	h. m.		h. m. s.	s.	s.		° ′ ″	″	″
Novem'r 24	4 59.3	I.	21 13 40.59	— 0.02	+ 0.16				
25	5 49.4	I.	22 7 54.54	0.26	0.09	S.	— 7 16 39.3	+ 3.0	+ 0.3
26	6 40.0	I.	23 2 30.37	0.08	0.34				
27	7 31.5	I.	23 58 5.65	0.15	0.24	S.	+ 1 48 29.6	+ 0.9	— 0.5
28	8 24.7	I.	0 55 20.71	— 0.23	0.13	S.	6 29 45.9	— 0.4	1.6
Decemb'r 1	11 17.6	I.	4 0 28.21	+ 0.05	0.13	N. & S.	17 10 55.8	— 0.6	2.4
7	16 47.8	II.	9 57 32.65	0.20	0.34				
21	2 57.2	I.	20 57 38.68	+ 0.03	0.01				
22	3 47.4	I.	21 52 0.87	— 0.14	0.01				
23	4 37.4	I.	22 46 2.62	0.28	+ 0.04				
27	8 5.5	I.	2 30 25.96	0.54	— 0.08				
28	9 2.2	I.	3 31 14.21	0.37	+ 0.06	S.	+ 16 0 19 1	+ 0.7	— 1.0
30	10 59.8	I.	5 37 2.45	— 0.05	+ 0.13				

SIDEREAL TIME OF SEMI-DIAMETER PASSING THE MERIDIAN AND VERTICAL SEMI-DIAMETER OF THE MOON.

Date.	Sid. time of semi-diam. passing mer.	C — O	Vertical semi-diameter.	C — O
1865.	m. s.	s.	′ ″	″
January 11	. . .	. .	15 11.6	— 0.9
March 11	1 0.88	0.00	14 46.2	— 1.6
April 1	. . .	. .	15 27.6	+ 10.7
June 8	1 7.46	+ 0.01	15 19.6	1.5
July 7	. . .	. .	15 39.8	2.1
August 3	. . .	. .	15 34.4	2.1
September 5	1 9.31:	+ 0.19		
27	. . .	. .	15 15.8	+ 3.3
December 1	. . .	. .	16 33.4	— 0.5

MERCURY.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Jan. 27	22 27.5	II.	18 59 10.02	— 0.03							
29	22 27.7	.	19 7 14.57	0.33	. .	. .	.	— 21 33 50.4	— 1.0		
Feb. 1	22 29.5	II.	19 20 53.44	0.27	. .	. .	.	21 39 48.6	+ 0.6		
5	22 34.1	.	19 41 16.40	0.51	. .	. .	.	21 32 51.8	— 1.0		
13	22 48.1	.	20 26 51.20	0.14	. .	. .	.	20 21 48.4	+ 0.3		
19	23 1.2	.	21 3 36.30	0.27	. .	. .	.	18 34 51.6:	+ 1.3		
20	23 3.5	.	21 9 52.15:	0.02	. .	. .	.	18 12 24.4	— 0.4		
23	23 10.7	.	21 28 52.63	0.20	. .	. .	.	16 57 12.9:	+ 1.7		
26	23 18.1	.	21 48 9.30	0.15	. .	. .	.	15 30 2.5	+ 1.7		
Mar. 5	23 36.4	.	22 34 8.84	0.55							
6	23 39.2	I-II.	22 40 49.92	0.28	0.18	— 0.01	.	— 10 39 20.6	— 1.7		
27	0 40.9	I.	1 1 35.44	— 0.06	. .	. .	.	+ 6 39 1.1	— 0.3		
April 1	0 56.0	I.	1 36 25.62	+ 0.01	. .	. .	.	11 10 2.7	+ 0.2		
8	1 10.2	I.	2 18 14.37	0.12	. .	. .	.	16 13 36.8	1.6		
14	1 11.3	I.	2 43 2.54	+ 0.04	. .	. .	.	18 50 7.9	+ 0.2		
17	1 7.1	I.	2 50 39.81:	— 0.04	. .	. .	.	19 28 31.6::	— 3.0		
May 14	22 51.6	II.	2 25 9.38	+ 0.14							
16	22 44.3	II.	2 25 39.85	0.15							
22	22 28.5	II.	2 33 33.26	0.21							
23	22 26.8	II.	2 35 45.78	0.03							
24	22 25.3	II.	2 38 12.40	0.25	. .	. .	.	11 36 16.8	+ 0.9		
29	22 21.3	II.	2 53 55.03	+ 0.10	. .	. .	.	12 55 13.4	— 0.4		
June 8	22 29.7	II.	3 41 46.22	— 0.06	. .	. .	.	17 7 12.8	0.8		
18	23 0.6	II.	4 52 11.09	+ 0.07	. .	. .	.	21 50 27.2	0.7		
22	23 19.3	II.	5 26 43.70	+ 0.18							
26	23 40.7	.	6 3 58.51	— 0.15							
July 3	0 14.5	.	7 1 26.97	+ 0.09							
6	0 30.5	I.	7 29 20.64	— 0.05							
7	0 35.6	I.	7 38 22.16	+ 0.21	. .	. .	.	23 19 40.0	0.3		
8	. . .	.		. .	. .	. .	.	23 0 18.6	— 0.9		
13	1 2.4	I.	8 28 58.40	0.23	. .	. .	.	20 54 42.5:	+ 0.1		
14	1 6.3	I.	8 36 46.13	0.10	. .	. .	.	20 24 51.3	— 1.4		
18	1 19.8	I.	9 6 5.68	0.05	. .	. .	.	18 13 49.3	1.8		
20	1 25.5	I.	9 19 40.73	0.08	. .	. .	.	17 2 58.1	0.9		
21	1 28.1	I.	9 26 12.68	+ 0.12	. .	. .	.	16 26 35.1	1.0		
22	1 30.5	I.	9 32 34.78	— 0.13	. .	. .	.	15 49 40.0	0.4		
24	1 34.8	I.	9 50 41.29	0.01							
27	1 40.2	I.	10 1 58.19	— 0.06	. .	. .	.	12 40 11.4	— 0.3		
28	1 41.6	I.	10 7 22.61	+ 0.07	. .	. .	.	12 1 50.5	0.0		
29	1 42.9	I.	10 12 38.05	+ 0.04	. .	. .	.	11 23 30.4	+ 0.3		
Aug. 3	1 47.2	I.	10 36 39.95	— 0.24							
8	1 47.7	I.	10 55 51.30	+ 0.01	. .	. .	.	5 15 54.0:	— 0.5		
9	1 47.3	I.	11 0 24.26	0.14	. .	. .	.	4 22 13.4:	0.2		
15	1 41.1	.		. .	. .	. .	.	1 41 38.5	— 1.1		
19	1 32.7	.		. .	. .	. .	.	+ 0 9 36.0	+ 0.3		
24	1 16.1	I.	11 28 16.49	0.03	. .	. .	.	— 0 57 36.5	— 0.8		
26	1 7.3	I.	11 27 17.79	+ 0.19	. .	. .	.	— 1 5 9.8	— 1.2		
Sept. 13	23 7.0	.		. .	. .	. .	.	+ 6 44 38.7	0.0		
14	23 2.7	II.	10 41 11.69	— 0.12							
15	22 58.9	II.	10 41 21.30	— 0.17	. .	.	.	7 27 51.7	+ 0.9		
19	22 49.6	.	10 47 45.59	+ 0.08	. .	. .	.	8 3 12.9	1.8		
20	22 48.6	II.	10 51 44.02	— 0.03	. .	. .	.	8 0 49.3	0.7		
21	22 48.1	II.	10 54 11.92	0.17	. .	. .	.	7 53 59.1	0.7		
25	22 50.3	. .	11 12 9.29	0.14							
26	22 51.6	II.	11 17 27.37	0.19	. .	. .	.	6 19 54.6	1.4		
27	22 53.2	II.	11 22 59.63	0.00	. .	. .	.	5 50 53.8	1.0		
28	22 55.0	II.	11 28 44.40	0.20	. .	. .	.	5 19 10.1:	0.1		
29	22 57.0	II.	11 34 38.83	0.12							
Oct. 2	23 3.6	II.	11 53 3.95	— 0.03	. .	. .	.	2 50 45.4	+ 3.1		
5	23 10.7	II.	12 12 2.60	0.00	. .	. .	.	0 44 28.8	— 0.6		
6	23 13.1	.	12 18 24.95	+ 0.01	. .	. .	.	+ 0 0 42.2:	1.4		
9	23 20.4	I-II.	12 37 31.91	+ 0.16	0.20	0.03	.	— 2 13 16.7	— 2.5		
10	23 22.8	.	12 43 53.35	— 0.07	. .	. .	.	2 58 24.5	+ 0.2		
11	23 25.2	I-II.	12 50 13.36	+ 0.18	0.23	0.07	.	— 3 43 29.7	— 0.6		
15	23 34.6	I-II.	13 15 23.45	— 0.07	0.18	— 0.02					
16	23 36.9	.	13 21 38.21	— 0.17							

MERCURY.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Nov. 6	0 21.5	I–II.	15 25 18.03	— 0.28	0.19	— 0.02	.	— 19 50 31.7	+ 1.6		
7	0 23.9	.	15 31 33.21	0.18	. .	. .	.	20 19 0.3	1.6		
8	0 26.2	.	15 37 49.55	0.31	. .	. .	.	20 46 29.0	1.5		
13	0 38.0	.	16 9 23.80	0.26	. .	. .	.	22 48 7.3	1.2		
14	0 40.4	I–II.	16 15 44.76	0.10	0.18	0.00	.	23 9 7.1	0.5		
15	0 42.8	I–II.	16 22 6.44	— 0.13	0.23	— 0.05					
16	0 45.2	I–II.	16 28 28.26	+ 0.05	0.17	+ 0.01					
24	. . .	.		. .	. .	. .	.	25 31 3.0	0.2		
25	1 6.5	I–II.	17 25 16.05	— 0.14	0.29	— 0.08	.	25 37 54.2:	+ 0.1		
28	1 12.7	.	17 43 22.37:	— 0.40	. .	. .	.	25 49 50.9::	— 5.0		
Dec. 2	. . .	.		. .	. .	. .	.	25 45 48.6:	+ 0.2		
8	. . .	.		. .	. .	. .	.	— 24 58 32.7	+ 3.5		

VENUS.

Jan. 4	2 55.7	I.	21 53 29.36	+ 0.06	. .	. .	.	— 14 36 2.1	+ 0.8		
5	. . .	.		. .	. .	. .	.	14 9 41.8	— 0.3		
11	2 59.7	I.	22 24 59.25	+ 0.25	. .	. .	.	11 25 1.0	1.0	9.20	— 0.8
12	. . .	.		. .	. .	. .	.	10 56 34.8	— 0.4		
13	3 0.6	I.	22 33 46.57	— 0.22							
16	3 1.7	I.	22 46 46.34	+ 0.05	. .	. .	.	9 0 24.8	+ 0.1	9.00:	— 0.3
20	3 2.9	I.	23 3 48.43	— 0.02	. .	. .	.	7 0 59.7	— 1.7	8.40	+ 0.46
25	3 4.1	I.	23 24 39.26	— 0.02	. .	. .	.	4 28 27.3	1.4		
26	. . .	.		. .	. .	. .	.	3 57 38.6	— 0.6		
28	3 4.5	I.	23 36 56.37	+ 0.15	. .	. .	.	2 55 48.2	+ 0.9		
30	3 4.7	I.	23 45 2.82	0.08	. .	. .	.	1 53 41.7	— 0.5		
Feb. 1	3 4.9	I.	23 53 5.09	0.17	. .	. .	.	0 51 30.4	1.7	9.90	— 0.21
2	3 5.0	I.	23 57 4.87	0.12	. .	. .	.	— 0 20 25.4	0.9	11.15	1.38
4	3 5.1	I.	0 5 1.32	0.24	. .	. .	.	+ 0 41 44.8	1.8	10.70	0.75
6	3 5.0	I.	0 12 54.17	0.17	. .	. .	.	1 42 46.1	1.6	10.20	0.07
13	3 4.5	I.	0 40 0.18	0.21							
14	3 4.4	I.	0 43 42.08	0.08	. .	. .	.	5 48 41.3	1.5	11.40	0.43
20	3 3.4	I.	1 6 22.64	0.31	. .	. .	.	8 47 35.9	1.9	11.80	0.36
21	3 3.2	I.	1 10 5.15	0.27	. .	. .	.	9 15 34.5	1.6	12.30	0.64
24	3 2.3	I.	1 21 6.69	0.26	. .	. .	.	10 41 9.0	1.2	12.20	— 0.17
27	3 1.3	I.	1 31 58.93	0.24	. .	. .	.	12 4 28.2	1.5	12.30	+ 0.09
Mar. 4	2 59.4	I.	1 49 41.92	0.25							
6	2 58.4	I.	1 56 37.23	0.33	. .	. .	S.	15 8 25.7	0.0		
7	2 57.9	I.	2 0 2.58	0.24	. .	. .	.	15 33 24.3	2.4	14.20	— 0.58
10	2 56.2	I.	2 10 7.69	0.37	. .	. .	S.	16 45 57.0	1.0		
11	2 55.5	I.	2 13 25.70	0.27	. .	. .	.	17 9 22.6	2.1	14.95	+ 0.63
13	2 54.1	I.	2 19 55.15	0.22	. .	. .	.	17 54 57.7	2.0	14.60	0.07
17	2 50.8	I.	2 32 25.32	0.27	. .	. .	.	19 20 57.3	1.9	14.70	+ 0.80
18	2 49.8	I.	2 35 26.14	0.29	. .	. .	.	19 41 17.8	0.7	16.00	— 0.30
23	2 44.5	I.	2 49 42.83	0.31	. .	. .	.	21 15 48.0	0.8	17.90	— 1.04
27	2 39.1	I.	3 0 0.21	0.31	. .	. .	.	22 21 59.8	0.5	17.50	+ 0.38
29	2 35.9	.		. .	. .	. .	.	22 51 43.8	2.0	17.70	0.70
April 1	2 30.4	I.	3 11 4.62	0.24	. .	. .	.	23 31 44.0	0.3	19.20	0.10
8	2 14.0	I.	3 22 14.69	0.20	. .	. .	S.	24 41 36.2:	— 2.1		
13	. . .	.		. .	. .	. .	S.	25 8 0.8:	+ 2.8		
14	1 54.8	I.	3 26 43.15	0.25	. .	. .	.	25 10 38.4	1.9	22.90	0.82
17	1 43.2	I.	3 26 54.68	0.16	. .	. .	.	25 12 35.3	0.2	24.70	+ 0.11
24	1 10.6	I.	3 21 44.54	+ 0.13	. .	. .	S.	24 38 35.7	2.5		
25	1 5.4	I.	3 20 23.32	— 0.04	. .	. .	S.	24 28 56.1	4.3		
26	. . .	.		. .	. .	. .	S.	24 18 6.3	1.7		
27	0 54.4	I.	3 17 15.42	0.07	. .	. .	S.	24 5 56.8	4.1		
28	. . .	.		. .	. .	. .	S.	23 52 37.4	2.4		
May 3	0 18.7	I.	3 5 11.88:	0.02	. .	. .	S.	22 28 15.6	5.3		
4	0 12.5	I.	3 2 55.88	0.21	. .	. .	S.	22 8 14.8	4.7		
11	. . .	.		. .	. .	. .	S.	19 5 26.5	6.3		
12	23 17.2	II.	2 42 51.15	0.02	. .	. .	.	18 41 36.8	5.4	30.50	— 1.03
14	23 5.7	II.	2 39 7.75	0.33	. .	. .	.	17 54 40.5	5.4	28.90	+ 0.22
15	23 0.1	II.	2 37 26.29	0.26	. .	. .	N.	17 31 49.3	4.7		
16	22 54.6	II.	2 35 52.52	0.20	. .	. .	N.	17 9 30.5	4.9		
17	22 49.2	II.	2 34 26.84	0.21	. .	. .	N.	+ 16 47 51.1	+ 5.5		
22	22 24.4	II.	2 29 27.74	0.15							
23	22 20.0	II.	2 28 54.90	— 0.24							

VENUS.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
May 24	. . .	.		. .	. .	. .	N.	+ 14 40 54.6	+ 4.0		
29	21 56.0	II.	2 28 43.42	— 0.12	. .	. .	N.	13 41 42.1	6.4		
30	21 52.7	II.	2 29 11.38	0.09	. .	. .	.	13 33 9.9	6.2	22.40:	+ 1.52
June 1	21 46.3	II.	2 30 31.64	0.20	. .	. .	.	13 19 16.0	7.5	22.10:	1.04
2	21 43.3	II.	2 31 23.19	0.03	. .	. .	.	13 13 55.1	5.7	22.30:	0.47
4	21 37.4	II.	2 33 28.90	— 0.07	. .	. .	.	13 6 9.5	4.6	21.40:	0.68
7	21 29.6	II.	2 37 30.02	+ 0.09	. .	. .	.	13 1 31.6	5.8	20.60	0.43
8	21 27.3	II.	2 39 3.82	— 0.06	. .	. .	N.	13 1 43.3	6.3		
9	. . .	.		. .	. .	. .	N.	13 2 43.9:	6.7		
13	21 16.8	II.	2 48 22.10	+ 0.03	. .	. .	.	13 4 16.3	7.4	18.60	0.49
18	21 8.7	II.	2 59 53.37	+ 0.13	. .	. .	.	13 42 57.7	5.1	16.70	+ 0.95
23	21 2.4	II.	3 13 17.03	— 0.02	. .	. .	.	14 23 30.9	3.5	16.60	— 0.23
26	. . .	.		. .	. .	. .	.	14 51 56.9	3.8	17.10	— 1.42
27	20 58.6	II.	3 35 9.13	+ 0.12	. .	. .	.	15 1 58.0	2.8	15.20	+ 0.25
28	20 57.8	II.	3 28 15.90	+ 0.05	. .	. .	.	15 12 8.9	5.0	15.20	0.04
29	20 56.9	II.	3 31 26.04	— 0.09	. .	. .	.	15 22 34.1	4.0	14.50	+ 0.53
30	20 56.1	II.	3 34 39.35	— 0.08							
July 2	20 54.9	II.	3 41 15.39	+ 0.10	. .	. .	.	15 54 41.5	2.4	14.60	— 0.17
6	20 52.9	II.	3 55 3.14	— 0.01	. .	. .	.	16 38 44.2	2.6	13.80	0.10
12	. . .	.		. .	. .	. .	.	17 44 40.1	1.0	14.10	1.37
13	20 51.2	II.	4 20 56.36	— 0.10							
17	20 51.1	II.	4 36 37.57	0.00	. .	. .	.	18 36 45.3	0.2	12.20	0.18
18	20 51.2	II.	4 40 38.42	+ 0.02							
19	20 51.3	II.	4 44 41.44	— 0.02	. .	. .	.	18 56 17.7	1.2	12.60	0.86
20	20 51.4	II.	4 48 46.59	— 0.10	. .	. .	.	19 5 44.0	+ 1.0	12.30	0.67
24	20 52.2	II.	5 5 26.59	+ 0.07							
25	. . .	.		. .	. .	. .	.	19 48 56.0	— 0.8	11.40	0.36
27	20 53.3	II.	5 18 15.89	+ 0.12	. .	. .	.	20 4 2.9	+ 0.1	11.10	0.30
28	20 53.7	II.	5 22 36.01	— 0.05	. .	. .	.	20 11 8.2	— 2.0	12.60	1.90
Aug. 4	20 57.1	II.	5 53 39.34	+ 0.06							
7	20 58.9	II.	6 7 19.13	+ 0.05	. .	. .	.	20 59 56.4:	— 1.2	11.40	1.64
8	20 59.5	II.	6 11 54.98	— 0.06	. .	. .	.	21 2 27.1:	+ 3.2	10.05	0.37
10	21 0.9	II.	6 21 9.89	0.04							
18	21 7.1	II.	6 58 47.48	0.18							
20	21 8.7	II.	7 8 19.12	— 0.20							
22	. . .	.		. .	. .	. .	.	20 44 19.8	— 1.4		
23	21 11.1	II.	7 22 39.86	+ 0.01	. .	. .	.	20 39 4.9	2.0	10.30	1.72
24	21 12.0	II.	7 27 27.70	— 0.12	. .	. .	.	20 33 15.8	1.3		
25	21 12.8	II.	7 32 15.76	0.15	. .	. .	.	20 26 55.3	1.9	10.50	2.04
27	21 14.7	II.	7 41 52.45	0.09	. .	. .	.	20 12 35.0	2.8	8.70	0.37
31	21 18.1	II.	8 1 7.44	0.11	. .	. .	.	19 37 21.3	4.2	8.35	0.24
Sept. 5	21 22.4	II.	8 25 10.70	0.15							
11	21 27.5	II.	8 53 56.31	0.08	. .	. .	.	17 16 17.2	2.1	8.60	1.06
14	21 30.0	II.	9 8 14.91	0.24	. .	. .	.	16 27 6.5	1.4		
15	21 30.8	II.	9 13 0.24	0.24	. .	. .		16 9 46.2:	2.1	8.80:	1.23
19	21 34.0	II.	9 31 56.93	0.19	. .	. .	.	14 55 46.6	1.6		
20	21 34.8	II.	9 36 39.78	0.07	. .	. .	.	14 36 10.8:	2.4	8.80:	— 1.63
21	21 35.5	II.	9 41 22.31	0.17	. .	. .	.	14 16 7.2	1.0		
25	21 38.4	II.	10 0 6.98	0.23	. .	. .	.	12 51 54.9	2.3		
26	21 39.1	II.	10 4 46.84	0.23	. .	. .	.	12 29 51.0	0.7		
27	21 39.9	II.	10 9 26.16	0.19	. .	. .	.	12 7 27.3	1.5		
28	21 40.6	II.	10 14 5.04	0.21	. .	. .	.	11 44 41.6	2.0		
29	21 41.2	II.	10 18 43.40	0.24							
Oct. 1	21 42.7	II.	10 27 58.58	0.16	. .	. .	.	10 34 17.1:	1.1		
2	. . .	.		. .	. .	. .	.	10 10 9.2	— 0.8		
4	21 44.5	II.	10 41 48.00	0.11							
5	21 45.2	II.	10 46 23.83	0.25	. .	. .	.	8 55 54.5	+ 0.9		
6	21 45.8	II.	10 50 59.08	0.21	. .	. .	.	8 30 36.5	— 0.1		
9	21 47.8	II.	11 4 42.70	0.11							
10	21 48.4	II.	11 9 16.77	0.21	. .	. .	.	6 46 45.8	1.8		
11	21 49.0	I–II.	11 13 50.35	0.09	0.45	— 0.02	.	6 20 11.3	— 1.0		
15	21 51.5	I–II.	11 32 3.68	0.29	0.47	0.04	.	4 31 52.3::	+ 0.5		
16	21 52.1	I–II.	11 36 35.33	0.25	0.44	0.02	.	4 4 21.9::	— 0.6		
19	. . .	.		. .	. .	. .	.	2 40 52.4	+ 0.8		
20	21 54.4	I–II.	11 54 44.51	. .	0.48	— 0.07	.	+ 2 12 48.3	0.0		
25	21 57.4	.		. .	. .	. .	.	— 0 9 0.3	— 0.6		
31	22 1.1	II.	12 44 45.05	— 0.16							

VENUS.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Nov. 6	22 5.0	I-II.	13 12 17.11	— 0.13	0.39	0.00	.	— 5 51 35.4	+ 0.6		
7	22 5.6	II.	13 16 54.36	0.21	. .	. .	.	6 19 47.8:	0.5		
8	22 6.3	I-II.	13 21 32.11	0.15	0.42	— 0.03	.	6 47 53.4	0.1		
9	22 6.9	I-II.	13 26 10.68	0.27	0.40	0.02	.	7 15 52.6	0.6		
10	22 7.6	II.	13 30 49.96	0.38	. .	. .	.	7 43 43.9	1.6		
12	22 9.0	I-II.	13 40 10.41	0.28	0.40	— 0.02	.	8 38 55.7	0.7		
13	22 9.7	I-II.	13 44 51.75	0.19	0.37	+ 0.01	.	9 6 16.9	0.9		
14	22 10.4	II.	13 49 33.89	0.10							
15	22 11.2	I-II.	13 54 17.03	0.15	0.38	0.00	.	10 0 25.6	2.4		
17	22 13.0	II.	14 3 45.90	0.17							
23	22 18.2	I-II.	14 32 35.18	0.05	0.42	— 0.04					
24	22 19.1	II.	14 37 27.24	0.26	. .	. .	.	13 51 44.0:	3.3		
26	22 21.0	I-II.	14 47 14.12	0.20	0.46	0.08	.	14 39 45.4	2.8		
27	22 22.0	II.	14 52 9.48:	0.44	. .	. .	.	15 3 13.5:	2.1		
30	22 25.0	I-II.	15 7 1.40	0.01	0.44	0.06	.	16 11 20.8::	2.0		
Dec. 7	22 32.8	I-II.	15 42 25.36	0.10	0.48	0.10	.	18 35 9.7:	+ 4.4		
13	22 40.3	I-II.	16 13 32.77:	0.41	0.55:	0.17	.	20 18 45.4	— 0.3		
15	22 42.9	I-II.	16 24 4.01	— 0.21	0.41	0.03					
20	22 49.8	I-II.	16 50 40.18	+ 0.02	0.38	0.00	.	21 53 18.3:	— 1.3		
21	22 51.2	I-II.	16 56 2.29	— 0.06	0.54	— 0.16	.	22 4 19.5	+ 0.8		
22	. . .	.		. .	. .	. .	.	22 14 39.1	0.8		
28	. . .	.		. .	. .	. .	.	— 23 2 29.1	+ 3.1		

MARS.

Jan. 4	8 56.7	I-II.	3 55 25.83	—0.66	0.51	+ 0.02	.	+ 23 0 26.9	— 1.7		
7	8 45.0	I-II.	3 55 36.23	0.69	0.48	0.04	.	23 1 19.3	0.8		
11	8 30.3	I-II.	3 56 34.84	0.62	0.38	0.11	.	23 4 9.6	0.9		
12	8 26.8	I-II.	3 56 57.18	0.64	0.42	0.07	.	23 5 8.9	0.4		
14	8 19.8	I-II.	3 57 50.50	0.51	0.44	+ 0.04	.	23 7 28.6	1.0		
16	8 13.0	I-II.	3 58 55.46	0.67	0.50	— 0.04	.	23 10 14.0:	2.8		
20	7 59.9	I-II.	4 1 37.41	0.54	0.33	+ 0.11	.	23 16 49.3	0.7		
25	7 44.6	I-II.	4 5 57.14	0.60	0.51	— 0.09	.	23 26 59.6	1.5		
26	7 41.7	I-II	4 6 56.22	0.58	0.42	0.00	.	23 29 13.3	0.5	5.30	+ 0.43
30	7 30.2	I-II.	4 11 15.01	0.56	0.34	+ 0.06					
Feb. 1	7 24.6	I-II.	4 13 37.11	0.49	0.38	0.02					
2	7 21.9	I-II.	4 14 51.32	0.61	0.37	+ 0.02	.	23 46 30.7	0.3	6.30	— 0.94
4	7 16.7	I-II.	4 17 25.31	— 0.57	0.38	0.00	.	23 51 50.5	0.9	6.00	0.78
13	. . .	.		. .	. .	. .	.	24 16 42.6	2.9		
14	. . .	.		. .	. .	. .	.	+ 24 19 26.4	— 0.4	5.20	— 0.46

JUPITER.

Mar. 18	18 2.8	I-II.	17 50 53.44	— 0.50	1.46	— 0.08					
April 15	16 17.6	I-II.	17 55 42.00	0.65	1.52	0.00					
June 2	12 54.3	I-II.	17 41 5.15	0.85	1.68	0.00	.	— 22 56 22.6	— 5.9	21.80	+ 0.43
3	12 49.8	I-II.	17 40 33.46	0.72	1.66	+ 0.02	.	22 56 15.1	5.4	21.65	0.80
7	12 32.0	I-II.	17 38 25.02	0.79	1.69	0.00	.	22 53 39.9	4.4	20.50	2.02
8	12 27.5	I-II.	17 37 52.59	0.96	1.70	— 0.01	.	22 55 29.8	4.6	21.15	+ 1.38
9	12 23.0	I-II.	17 37 19.74	0.86	1.64	+ 0.05					
22	11 24.7	I-II.	17 30 10.84	0.87	1.70	— 0.01	.	22 52 33.5	5.0	22.70	— 0.14
23	11 20.3	I-II.	17 29 38.35	0.79	1.67	+ 0.02					
24	11 15.8	I-II.	17 29 6.24	0.90	1.72	— 0.04	.	22 52 3.8	5.2	21.70	+ 0.85
26	11 6.9	I-II.	17 28 2.39	0.80	1.66	+ 0.02	.	22 51 34.7	4.2	21.80	0.71
28	10 58.0	I-II.	17 26 59.82	0.90	1.68	0.00	.	22 51 3.3	5.1	21.35	1.12
29	10 53.6	I-II.	17 26 28.98	0.94	1.68	0.00					
July 3	10 35.9	I-II.	17 24 28.88	0.81	1.77	— 0.10	.	22 49 46.1	5.4	22.10	0.39
6	10 22.6	I-II.	17 23 3.37	1.02	1.68	0.01	.	22 49 0.3	5.8	22.00	0.19
7	10 18.2	I-II.	17 22 35.61	0.92	1.72	0.05	.	22 48 46.4	4.8	21.50	0.75
12	. . .	.		. .	. .	. .	.	22 47 35.2	5.2	21.25	+ 0.81
13	9 52.0	I-II.	17 20 0.33	1.03	1.69	0.04	.	22 47 21.2	5.9	22.30	— 0.27
14	9 47.7	I-II.	17 19 36.19	0.87	1.72	0.07	.	22 47 9.9	4.3	21.30	+ 0.69
17	9 34.8	I-II.	17 18 27.62	0.65	1.66	0.02	.	22 46 32.8	4.9	21.20	0.65
20	9 21.9	I-II.	17 17 25.15	0.85	1.64	0.01	.	22 46 0.1	5.2	20.85	0.95
22	9 13.4	I-II.	17 16 46.80	0.94	1.65	0.03	.	22 45 43.0	3.4	20.90	0.71
25	9 0.7	I-II.	17 15 54.39	0.98	1.67	0.06	.	22 45 18.4	4.2	21.00	0.47
26	8 56.5	I-II.	17 15 38.12	— 0.75	1.62	— 0.02	.	— 22 45 11.1	— 4.8	20.55	+ 0.97

JUPITER.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	h. m.		h. m. s.	s.	s.	s		° ′ ″	″	″	″
Aug. 2	8 27.5	I-II.	17 14 7.01	— 1.02	1.59	— 0.01					
3	. . .	.		. .	. .	. .	.	— 22 44 44.5:	— 4.5	21.05:	— 0.10
4	8 19.3	.		. .	. .	. .	.	22 44 44.8:	4.3	19.50	+ 1.47
7	8 7.1	I-II.	17 13 24.66	0.83	1.62	0.06	.	22 44 50.7	3.8	20.80	— 0.04
8	8 3.1	I-II.	17 13 18.68	0.93	1.62	0.07	.	22 44 50.6	7.3	19.80	+ 0.91
9	7 59.1	I-II.	17 13 13.46	1.00	1.60	— 0.05					
11	7 51.0	I-II.	17 13 5.27	1.00	1.52	+ 0.02	.	22 45 8.4	5.0	20.30	0.25
12	. . .	.		. .	. .	. .	.	— 22 45 15.9	— 4.5	20.40	+ 0.09
16	7 31.3	I-II.	17 12 58.71	— 0.90	1.56	— 0.04					

SATURN.

Jan. 25	17 33.1	.	13 55 58.53	+ 0.86							
April 13	12 15.5	I-II.	13 45 5.23	0.66	0.61	— 0.01	.	— 7 54 23.0	—23.2	8.60	+ 0.33
18	11 54.4	I-II.	13 43 39.15	0.56	0.61	0.00	.	7 46 14.2	21.1	8.60	+ 0.34
25	11 24.9	I-II.	13 41 39.29	0.49	0.56	+ 0.05	.	7 35 3.1	22.0	9.10	— 0.16
26	11 20.7	I-II.	13 41 22.27	0.61	0.64	— 0.04	.	7 33 30.7	21.2	7.95	+ 0.98
27	11 16.5	I-II.	13 41 5.48	0.59	0.56	+ 0.04	.	7 31 58.7	20.8	8.80	0.13
28	11 12.3	I-II.	13 40 48.66	0.70	0.60	0.00	.	7 30 26.8	21.1	8.00	+ 0.93
29	11 8.1	I-II.	13 40 32.23	0.52	0.64	— 0.04	.	7 28 55.3:	(21.9)	(10.75)	(— 1.83)
May 1	10 59.7	I-II.	13 39 59.37	0.50	0.64	— 0.04	.	7 25 57.0	21.6	8.30	+ 0.62
2	10 55.5	I-II.	13 39 43.16	0.46	0.58	+ 0.02	.	7 24 29.5	21.4	8.30	0.61
3	10 51.3	I-II.	13 39 27.87	0.64	0.60	0.00					
6	10 38.7	I-II.	13 38(39.92)	. .	0.52	0.08	.	7 18 50.3	20.9	8.20	0.70
7	10 34.5	I-II.	13 38 24.07	0.54	0.58	+ 0.02					
12	10 13.5	I-II.	13 37 9.38	0.57	0.60	0.00	.	7 10 57.2	21.9	7.75	1.09
13	10 9.4	I-II.	13 36 55.06	0.55	0.61	— 0.01					
15	10 1.0	I-II.	13 36 27.12	0.47	0.66	0.06					
16	9 56.9	I-II.	13 36 13.41	0.51	0.60	0.00	.	7 6 13.1	20.0	8.00	0.81
17	9 52.7	I-II.	13 36 59.99	0.49	0.60	— 0.01	.	7 5 4.8	20.9	8.15	0.65
23	9 27.9	I-II.	13 34 44.81	0.36	0.57	+ 0.02	.	6 58 55.1	21.1	8.50	0.24
24	9 23.8	I-II.		. .	. .	. .	.	6 58 0.6	20.2	8.00	0.73
29	9 3.2	I-II.	13 33 39.47	0.46	0.65	— 0.06	.	6 53 52.2	20.6	7.20	1.48
30	8 59.1	I-II.	13 33 29.71	0.40	0.63	— 0.04	.	6 53 8.8	20.2	7.95	0.72
June 1	8 50.9	I-II.	13 33 11.04	0.37	0.55	+ 0.04	.	6 51 48.3	19.3	7.85	0.80
2	8 46.9	I-II.	13 33 2.11	0.43	0.60	— 0.01	.	6 51 10.7	19.2		
3	8 42.8	I-II.	13 32 53.57	0.43	0.60	— 0.01	.	6 50 33.0	21.0	8.60	0.02
4	8 38.7	I-II.	13 32 45.36	0.42	0.58	+ 0.01					
5	8 34.7	I-II.	13 32 37.39	0.50	0.62	— 0.04					
7	8 26.6	I-II.	13 32 22.67	0.44	0.58	0.00	.	6 48 34.0	18.9	7.40	+ 1.16
9	8 18.5	I-II.	13 32 9.34	0.33	0.62	0.04	.	— 6 47 45.8	—19.1		
12	8 6.4	I-II.	13 31 51.65	+ 0.46	0.62	— 0.04					

URANUS.

Jan. 4	. . .	.		. .	. .	. .	.	+ 23 36 55.1:	+ 8.0		
5	10 42.6	.	5 45 31.60	— 2.71							
7	10 34.4	I-II.	5 45 11.00	2.73	0.20	— 0.06	.	23 36 43.9	8.5		
11	10 18.0	.	5 44 31.10	2.81	. .	. .	.	23 36 33.0	5.3		
12	10 13.9	I-II.	5 44 21.32	2.74	0.12	+ 0.01	.	23 36 27.0	7.9		
14	10 5.7	.	5 44 2.08	2.57							
16	9 57.6	.	5 43 43.56	2.62	. .	. .	.	23 36 16.5:	5.2		
20	9 41.2	.	5 43 7.99	2.46	. .	. .	.	23 36 2.1	6.4		
25	9 20.9	.	5 42 27.14	2.49	. .	. .	.	23 35 48.6	4.0		
26	. . .	.		. .	. .	. .	.	23 35 43.2	6.3		
30	9 0.6	I-II.	5 41 50.55	2.49	0.18	— 0.05	.	23 35 32.1	5.5		
Feb. 1	8 52.5	I-II.	5 41 37.10	2.39	0.14	0.01	.	23 35 26.3	5.6		
2	8 48.5	.	5 41 30.65	2.35	. .	. .	.	23 35 22.1	7.1		
4	8 40.4	I-II.	5 41 18.43	2.39	0.25	— 0.12	.	23 35 16.7	7.4		
6	8 32.4	.	5 41 7.11	2.51	. .	. .	.	23 35 13.2	5.8		
13	8 4.3	.	5 40 33.61	2.45							
14	8 0.3	.	5 40 29.62	2.40	. .	. .	.	23 34 55.1	7.0		
20	7 36.4	.	5 40 10.88	2.53							
27	7 8.7	.	5 39 59.00	2.36	. .	. .	.	+ 23 34 41.3	+ 6.1		
Mar. 4	6 49.0	.	5 39 57.66	— 2.39							

URANUS.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Oct. 8	17 5.1	.	6 17 7.63	— 2.61							
9	17 1.2	I–II.	6 17 7.53	2.55	0.21	— 0.08					
10	16 57.2	.	6 17 7.34	2.63							
25	15 57.7	.	6 16 35.52	2.39							
Nov. 5	15 13.5	.	6 15 41.29	2.55							
15	14 33.1	I–II.	6 14 31.00	2.34	0.16	0.03					
29	13 36.0	I–II.	6 12 25.48	2.18	0.22	0.08					
Dec. 7	13 3.1	.	6 11 3.32	2.28							
14	12 34.3	.	6 9 47.16	2.32	. .	. .	.	+ 23 41 34.2	+ 9.9		
15	12 30.2	.	6 9 35.97	2.22	. .	. .	.	23 41 39.6:	7.7		
21	12 5.5	.	6 8 28.61	2.07							
22	12 1.4	I–II.	6 8 17.52	2.24	0.17	0.03	.	23 42 0.1	8.5		
23	11 57.3	I–II.	6 8 6.19	2.16	0.20	0.06	.	23 41 59.9	11.5		
28	11 36.6	.	6 7 9.87	2.02	. .	. .	.	+ 23 42 16.3	+ 7.8		
30	11 28.4	I–II.	6 6 47.69	— 2.16	0.22	— 0.08					

NEPTUNE.

Jan. 4	5 25.0	.	0 23 6.55	+ 2.38							
July 25	16 24.9	.	0 41 12.06	2.83	. .	— 0.13	.	+ 2 45 43.0	+18.6		
28	16 13.1	.	0 41 7.18	3.03	. .	+ 0.06	.	2 45 4.2	16.9		
Aug. 7	15 33.3	.	0 40 44.29	3.03	. .	0.03	.	2 42 3.4	18.0		
12	15 13.4	.	0 40 28.86	3.02	. .	+ 0.02	.	2 40 8.4	18.7		
15	15 1.4	.	0 40 18.45	2.98	. .	— 0.02	.	2 38 57.9:	13.5		
19	14 45.4	.	0 40 3.16	2.99	. .	0.00	.	2 37 6.1	16.2		
23	14 29.4	.	0 39 46.38	3.03	. .	+ 0.05	.	2 35 8.3	16.5		
24	14 25.4	.	0 39 42.12	2.92	. .	— 0.06	.	2 34 38.7	15.5		
25	14 21.3	.	0 39 37.67	2.89	. .	— 0.09	.	2 34 3.6	19.5		
26	14 17.3	.	0 39 32.94	3.06	. .	+ 0.09	.	2 33 33.4	18.0		
29	14 5.3	.	0 39 18.94	2.93	. .	— 0.03	.	2 31 57.9	16.1		
31	13 57.3	.	0 39 9.06	3.02	. .	+ 0.05					
Sept. 1	13 53.3	.		. .	. .	. .	.	2 30 14.2	18.7		
5	13 37.2	.	0 38 43.39	3.02	. .	+ 0.03					
6	13 33.2	.	0 38 38.16	2.93	. .	— 0.06	.	2 27 18.2	18.4		
11	13 13.1	.	0 38 10.69	2.98	. .	0.01	.	2 24 12.1:	20.3		
12	13 9.1	.	0 38 5.12	2.90	. .	0.08	.	2 23 34.5	20.2		
14	13 1.0	.	0 37 53.67	2.93	. .	— 0.05	.	2 22 20.4	18.3		
15	12 57.0	.	0 37 47.83	3.00	. .	+ 0.02	.	2 21 41.6	18.8		
16	12 53.0	.	0 37 41.90	3.12	. .	0.14	.	2 21 5.4	16.5		
19	12 40.9	.	0 37 24.37	2.99	. .	0.01	.	2 19 8.2	17.1		
20	12 36.9	.	0 37 18.24	3.18	. .	+ 0.20					
22	12 28.8	.	0 37 6.54	2.91	. .	— 0.06					
23	12 24.8	.	0 37 0.40	3.02	. .	+ 0.05	.	2 16 29.7	18.2		
26	12 12.7	.	0 36 42.03	3.21	. .	+ 0.24	.	2 14 33.4	15.6		
27	12 8.7	.	0 36 36.24	2.90	. .	— 0.06					
28	12 4.7	.	9 36 30.05	2.98	. .	+ 0.02	.	2 13 12.6	17.0		
29	12 0.6	.	0 36 23.90	3.01	. .	+ 0.05					
Oct. 2	11 48.5	.	0 36 5.64	2.90	. .	— 0.04	.	2 10 36.0	14.9		
5	11 36.4	.	0 35 47.27	2.90	. .	0.01	.	2 8 36.6	15.8		
6	11 32.4	.	0 35 41.18	2.87	. .	0.04					
7	11 28.3	.	0 35 35.05	2.89	. .	0.01	.	2 7 16.6	17.3		
9	11 20.2	.	0 35 23.02	2.76	. .	— 0.13					
10	11 16.2	.	0 35 16.75	2.97	. .	+ 0.08					
11	11 12.2	.	0 35 10.87	2.81	. .	— 0.07					
12	. . .	.		. .	. .	. .	.	2 4 6.5	14.1		
16	10 52.0	.		. .	. .	. .	.	2 1 34.3::	15.6		
20	10 35.9	.	0 34 17.73	2.87	. .	0.00	.	1 59 7.2	16.2		
21	10 31.9	.	0 34 11.95	2.95	. .	+ 0.08	.	1 58 30.8	17.0		
24	10 19.8	.	0 33 55.00	3.05	. .	+ 0.17	.	1 56 45.2	17.6		
25	10 15.8	.	0 33 49.67	2.87	. .	— 0.01	.	1 56 12.1	16.3		
28	10 3.7	.	0 33 33.54	2.81	. .	0.08	.	1 54 30.7	17.3		
Nov. 1	9 47.6	.	0 33 12.76	2.85	. .	0.02	.	1 52 23.5	16.9		
6	9 27.5	.	0 32 48.44	2.82	. .	0.03	.	1 49 58.0	14.4		
7	9 23.5	.	0 32 43.84	2.78	. .	— 0.07	.	1 49 29.4	15.0		
8	9 19.5	.	0 32 39.18	2.88	. .	+ 0.03	.	1 48 59.6	17.4		
9	9 15.5	.	0 32 34.74	+ 2.86	. .	+ 0.01	.	+ 1 48 32.2	+18.0		

The first comparison of Neptune is with the American Ephemeris, the second with Newcomb's tables.

NEPTUNE.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Nov. 10	9 11.5	.	0 32 30.41	+ 2.79	. .	— 0.05	.	+ 1 48 8.8	+15.0		
11	9 7.5	.	0 32 26.06	2.83	. .	0.01	.	1 47 43.0	15.2		
13	8 59.5	.	0 32 17.81	2.74	. .	— 0.10	.	1 46 51.5:	17.3		
14	8 55.5	.	0 32 13.66	2.86	. .	+ 0.01	.	1 46 27.7:	17.3		
15	8 51.5	.	0 32 9.74	2.85	. .	0.00					
24	8 15.6	.	0 31 38.74	2.90	. .	+ 0.07	.	1 43 8.3	16.3		
25	8 11.7	.	0 31 35.98	2.76	. .	— 0.06	.	1 42 51.7	16.8		
27	8 3.7	.	0 31 30.47	2.77	. .	— 0.05	.	1 42 21.5	16.8		
28	7 59.8	.	0 31 27.77	2.89	. .	+ 0.07					
Dec. 1	7 47.9	.	0 31 20.80	2.80	. .	— 0.02	.	1 41 31.9	15.4		
8	7 20.1	.	0 31 8.57	+ 2.68	. .	— 0.11	.	1 40 33.6	14.5		
14	. . .	.		. .	. .	. .	.	1 40 15.5	13.1		
15	. . .	.		. .	. .	. .	.	1 40(14.4)	13.8		
22	. . .	.		. .	. .	. .	.	1 40(29.4)	19.5		
28	. . .	.		. .	. .	. .	.	+ 1 41 22.8	+16.1		

VESTA.

Mar. 4	13 0.9	.	11 52 54.01	— 0.21							
6	12 51.3	.	11 51 11.74	0.09	. .	. .	.	+ 13 25 33.4	— 0.2		
7	. . .	.		. .	. .	. .	.	13 33 46.6	+ 0.1		
10	12 32.1	.	11 47 39.06	0.02	. .	. .	.	13 57 52.8	— 1.6		
11	12 27.2	.	11 46 44.63	0.04	. .	. .	.	14 5 40.0:	1.2		
13	12 17.5	.	11 44 54.68	0.07	. .	. .	.	14 20 51.0	— 0.9		
18	11 53.4	.	11 40 17.44	0.17	. .	. .	.	14 55 59.5	+ 0.3		
20	11 43.6	.	11 38 27.11	0.12	. .	. .	.	15 8 46.4	— 0.9		
22	11 33.7	.	11 36 38.19	0.12	. .	. .	.	15 20 41.3	— 0.6		
27	11 9.9	.	11 32 15.86	0.11	. .	. .	.	15 46 26.2:	+ 0.3		
April 1	10 46.2	.	11 28 15.43	0.12	. .	. .	.	16 5 54.9	+ 1.1		
6	10 23.1	.	11 24 44.79	0.00	. .	. .	.	16 48 49.4	— 0.1		
7	10 18.5	.	11 24 6.90	0.07							
8	10 14.0	.	11 23 30.41	0.08							
13	9 51.6	.	11 20 51.29	0.02							
14	9 47.3	.	11 20 24.40	0.07	. .	. .	.	16 25 40.1	0.4		
17	9 34.3	.	11 19 13.60	0.02	. .	. .	.	16 23 58.8	— 0.6		
18	. . .	.		. .	. .	. .	.	16 22 53.9	+ 0.5		
24	9 5.1	.	11 17 29.70	0.07	. .	. .	.	16 11 29.3	— 0.9		
25	9 0.6	.	11 17 21.96	0.08	. .	. .	.	16 8 44.7	+ 0.3		
26	8 56.9	.	11 17 16.00	0.06	. .	. .	.	16 5 49.6	— 1.0		
27	8 53.0	.	11 17 11.80	0.00	. .	. .	.	16 2 38.5	+ 0.2		
28	. . .	.		. .	. .	. .	.	+ 16 59 16.5	— 0.7		
May 3	8 29.5	.	11 17 24.44	— 0.13							

JUNO.

Aug. 7	14 17.1	.	23 24 24.89	— 1.61	. .	. .	.	+ 1 28 34.0	— 1.6		
19	13 25.9	.	23 20 20.10	1.75	. .	. .	.	— 0 1 9.1	5.4		
24	13 3.6	.	23 17 43.64	1.90							
25	12 59.3	.	23 17 9.02	1.83	. .	. .	.	0 59 20.1	3.4		
26	12 54.6	.	23 16 33.45	1.85							
29	12 40.0	.	23 13 41.63	1.93							
31	12 31.8	.	23 13 22.94	1.78							
Sept. 1	12 27.2	.	23 12 42.78	1.92	. .	. .	.	2 16 14.2	4.6		
5	12 8.7	.	23 9 56.24	1.81							
6	12 4.0	.	23 9 13.66	1.87	. .	. .	.	3 15 38.0	3.8		
11	. . .	.		. .	. .	. .	.	4 17 13.3	4.4		
12	11 36.2	.	23 4 53.83	1.89							
14	11 28.3	.	23 3 27.38	1.76	. .	. .	.	4 54 37 2	4.8		
15	11 22.2	.	23 2 44.56	1.92	. .	. .	.	5 7 6.5	3.5		
16	11 17.6	.	23 2 2.06	1.93	. .	. .	.	5 19 32.0	4.8		
19	11 3.7	.	22 59 57.06	1.72	. .	. .	.	5 56 38.3	3.1		
20	10 59.1	.	22 59 16.72	1.83							
22	10 49.9	.	22 57 58.07	1.88							
23	10 45.4	.	22 57 19.87	1.80	. .	. .	.	6 45 2.7	3.1		
26	10 31.7	.	22 55 31.14	1.76	. .	. .	.	7 20 5.0	6.2		
27	10 27.2	.	22 54 57.10	1.89							
28	10 22.8	.	22 54 24.01	1.72	. .	. .	.	— 7 42 46.1	— 4.3		
29	10 18.3	.	22 53 52.30	— 1.78							

JUNO.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Oct. 2	10 5.1	.	22 52 24.74	— 1.81	. .	. .	.	— 8 25 59.9	— 3.8		
5	9 52.0	.	22 51 9.42	1.61	. .	. .	.	8 56 20.0	3.7		
6	9 47.7	.	22 50 47.44	1.72							
7	. . .	.		. .	. .	. .	.	9 15 28.9	2.6		
9	9 35.0	.	22 49 50.44	1.67							
10	. . .	.		. .	. .	. .	.	9 42 23.7	4.3		
12	. . .	.		. .	. .	. .	.	9 59 9.8	2.6		
16	. . .	.		. .	. .	. .	.	10 29 31.1	4.8		
20	8 50.4	.	22 48 31.85	— 1.63	. .	. .	.	— 10 55 41.3	— 3.0		

PALLAS.

Nov. 27	. . .	.		. .	. .	. .	.	— 31 57 55.4	+ 0.4		
Dec. 14	. . .	.		. .	. .	. .	.	33 7 17.0	— 7.1		
15	11 19.2	.	4 58 30.59	+ 2.24	. .	. .	.	33 6 37.0	5.2		
21	10 50.6	.	4 53 30.90	2.40							
22	10 45.9	.	4 52 43.91	2.37	. .	. .	.	32 46 47.2	6.9		
23	10 41.2	.	4 51 57.92	2.36	. .	. .	.	32 41 55.1	4.8		
28	10 18.0	.	4 48 25.70	+ 2.31	. .	. .	.	— 32 9 58.1	— 7.0		

ASTRÆA.

Sept. 23	11 26.0	.	23 38 3.66	+ 4.23							
27	11 7.0	.	23 34 49.11	+ 4.30							

HEBE.

Mar. 22	12 28.6	.	31 31.31	— 1.46							
April 1	11 40.8	.	22 59.85	— 1.41	. .	. .	.	+ 14 53 30.4	— 0.5		
13	10 44.2	.	13 33.38								

IRIS.

June 2	. . .	.		. .	. .	. .	.	— 23 28 43.2			
3	12 19.3	.	17 9 55.85	. .	. .	. .	.	— 23 25 44.5:			
22	10 44.7	.	16 50 12.87								
28	10 15.9	.	16 44 45.52								

FLORA.

Mar. 11	12 49.7	.	12 9 14.52	— 2.55	. .	. .	.	+ 8 46 8.9	+10.4		
13	12 39.9	.	7 18.91	2.65							
16	12 15.3	.	2 23.98	2.71	. .	. .	.	+ 9 39 24.2:	+11.1		
27	11 31.2	.	11 53 36.58	2.54							
April 1	11 6.9	.	49 2.17	— 2.36							
13											

EUNOMIA.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1865.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
Dec. 14	12 37.7	.	6 13 18.09	— 4.58	. .	. .	.	+ 32 0 1.5	+ 7.7		
15	12 32.6	.	12 8.12	4.65	. .	. .	.	31 55 20.1	5.8		
21	12 2.0	.	5 3.40	4.41							
22	11 56.4	.	3 23.21	4.51	. .	. .	.	31 18 31.1	7.1		
23	11 51.8	.	2 43.12	4.57							
28	11 27.5	.	5 57 2.14	— 4.63	. .	. .	.	+ 30 42 13.0	+ 7.7		

PSYCHE.

Nov. 15	12 28.2	.	4 9 25.83	+ 0.60							
24	11 44.9	.	1 23.47	0.83	. .	. .	.	+ 15 39 20.1	+ 1.8		
25	11 40.0	.	0 29.72	0.85	. .	. .	.	15 36 56.2:	+ 2.2		
27	11 30.4	.	3 58 43.19	+ 0.63							
Dec. 14	10 10.2	.	45 22.64		. .	. .	.	15 3 59.8:			
15	10 5.7	.	44 45.10		. .	. .	.	+ 15 3 19.9:			

MASSALIA.

Jan. 30	13 59.4	.	9 41 17.81	— 6.59	. .	. .	.	+ 12 36 53.7	+28.0		
Feb. 2	12 44.8	.	38 29.68	6.48	. .	. .	.	12 51 14.1	25.7		
6	. . .	.		. .	. .	. .	.	13 10 45.1:	35.1		
20	11 17.1	.	21 29.80	6.50	. .	. .	.	14 18 15.3	27.5		
21	11 12.3	.	20 38.57	— 6.30	. .	. .	.	14 22 38.6	27.1		
28	10 39.4	.	15 17.70	. .	. .	. .	.	14 50 25.3	+30.0		
Mar. 7	10 7.9	.	11 15.54	. .	. .	. .	.	+ 15 12 21.4			

EUTERPE.

Jan. 4	11 41.6	.	6 40 47.81	. .	. .	. .	.	+ 23 35 31.5	— 4.0		
7	11 26.7	.	37 43.14	. .	. .	. .	.	23 42 5.6	— 2.6		
12	11 2.3	.	32 55.05	. .	. .	. .	.	23 51 59.3	+ 0.1		
25	. . .	.		. .	. .	. .	.	24 11 20.4			
26	9 58.5	.	24 6.92	. .	. .	. .	.	24 12 33.3			
Feb. 2	. . .	.		. .	. .	. .	.	+ 24 19 6.5			

AUSONIA.

April 1	12 41.3	.	13 23 37.33	+13.11							

ANGELINA.

Jan. 18	. . .	.		. .		. .	.	+ 19 48 36.0	+ 3.6		
19	12 23.3	.	8 21 43.00	— 2.20							
26	11 49.0	.	14 55.53	2.20		. .	.	20 8 24.7::	+ 4.9		
Feb. 1	11 19.7	.	9 15.92	2.22							
2	11 14.9	.	8 22.08	1.84		. .	.	20 23 42,5	— 1.1		
4	11 5.3	.	6 37.96	— 2.28		. .	.	+ 20 27 19,1	+ 9.3		

429

RIGHT ASCENSIONS AND DECLINATIONS

OF

STARS, ASTEROIDS, AND COMETS,

OBSERVED WITH THE EQUATORIAL,

1865.

RIGHT ASCENSIONS AND DECLINATIONS OF STARS, ASTEROIDS, AND COMETS,

OBSERVED WITH THE EQUATORIAL IN 1865.

DATE.	MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
		EUTERPE.			
1865.	h. m. s.		h. m. s.	° ′ ″	
January 4	10 8 19.9	Weisse (2) VI, 1172	6 40 51.83	+ 23 35 14.76	4
11	7 48 36.4	Weisse (2) VI, 935	6 33 57.61	+ 23 50 15.64	10
		LEDA.			
January 14	7 59 8.9	Weisse (2) VII, 1305	7 47 45.61	+ 21 29 18.26	2
14	9 29 43.5	Weisse (2) VII, 1305	7 47 41.50	21 29 13.51	6
17	8 38 25.5	Weisse (2) VII, 1305	7 44 37.05	21 25 37.25	11
20	8 41 1.6	Weisse (2) VII, 1143	7 41 34.60	21 21 34.89	10
26	8 31 58.7	Weisse (2) VII, 1022	7 35 46.58	21 12 39.38	11
February 2	8 30 17.3	Weisse (2) VII, 915	7 29 51.05	+ 21 0 48.24	10
		DORIS.			
January 20	9 47 44.1	Weisse VII, 624	7 54 17.82	+ 11 47 24.11	6
25	8 53 16.3	(* 133) W.	7 50 15.37	12 5 19.10	10
26	9 41 39.8	Weisse VII, 1477	7 49 26.80	+ 12 9 0.20	10
		COMET IV, 1864, (Bœker's.)			
January 25	7 27 50.5	Lalande 45028	23 58 37.12	− 4 44 58.84	5
26	7 11 46.1	Weisse XXII, 1223	23 3 46.10	4 49 43.63	5
26	7 11 46.1	Weisse XXII, 1248	23 3 45.37	4 49 44.87	5
30	6 55 15.4	B. A. C. 8184	23 23 40.14	5 5 21.52	10
February 2	7 4 41.1	Lalande 46609	23 37 54.19	5 14 38.63	7
2	7 4 41.1	Weisse XXIII, 848	23 37 54.81	5 14 42.95	7
4	7 1 42.5	Weisse XXIII, 848	23 47 1.78	5 19 53.26	5
6	7 22 29.5	Weisse XXIII, 1099	23 55 56.27	5 24 19.44	3
13	7 10 58.3	B. A. C. 138	0 24 48.27	5 33 51.08	6
14	7 1 44.2	B. A. C. 138	0 28 40.20	5 34 28.59	9
20	7 24 20.5	B. A. C. 291	0 50 53.45	5 35 42.78	3
21	7 7 20.2	Weisse O, 935	0 54 24.63	− 5 35 26.98	3
		ANGELINA.			
February 2	10 22 51.7	Weisse (2) VIII, 221	8 8 24.56	+ 20 23 32.47	10
6	8 18 20.7	Weisse (2) VIII, 83	8 5 3.47	+ 20 30 41.39	11
		VESTA.			
March 10	9 36 2.2	Weisse XI, 785	11 47 45.91	+ 13 56 50.41	10
		PALES.			
March 18	8 48 1.6	Weisse X, 664	10 36 6.00	+ 5 3 15.21	10
		FLORA.			
March 18	9 41 17.7	Santini 830	12 2 29.89	+ 9 38 37.06	10
		HEBE.			
March 23	9 53 53.3	Weisse XII, 497	12 30 45.70	+ 13 42 2.53	8
April 1	10 39 53.2	Weisse XII, 311	12 23 0.92	+ 14 53 16.15	10

DATE.		MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
			EURYNOME.			
1865.		h. m. s.		h. m. s.	° ′ ″	
April	1	9 37 24.7	Weisse XI, 562	11 34 33.53	— 0 38 31.44	10
	13	9 25 36.2	Lalande 21911, 12	11 26 51.63	+ 0 36 11.74	10
	17	8 59 30.8	Durchm. 2799	11 24 57.88	+ 0 56 53.11	12
			AUSONIA.			
April	19	9 36 45.8	B. A. C. 4418	13 5 40.80	— 15 15 32.92	10
	24	9 58 6.2	Oeltzen S. 12630	13 0 55.71	14 55 29.63	10
	25	11 5 24.1	Oeltzen S. 12630	12 59 59.36	14 51 12.83	5
	25	11 26 9.3	Oeltzen S. 12626	13 0 0.21	14 51 20.12	5
	26	9 44 44.1	Oeltzen S. 12630	12 59 9.21	14 47 18.20	15
	27	10 45 34.8	Oeltzen S. 12626	12 58 16.92	— 14 43 9.34	10
			EGERIA.			
May	3	11 8 42.3	Oeltzen S. 15134	15 53 19.81	— 25 46 20.20	6
	3	11 8 42.3	B. A. C. 5314	15 53 19.92	25 46 23.57	6
	6	11 45 20.6	π Scorpii	15 50 6.18	25 57 41.11	12
	16	10 47 28.6	Oeltzen S. 14864	15 38 48.08	26 26 39.88	14
	17	9 35 49.4	Oeltzen S. 14864	15 37 41.74	— 26 28 57.83	12
			POMONA.			
May	16	11 41 1.3	Oeltzen S. 15398	16 5 3.18	— 17 41 19.53	10
	17	10 57 7.5	Oeltzen S. 15342	16 4 10.93	17 36 19.39	9
	23	10 57 19.7	Oeltzen S. 15294	15 58 44.70	17 5 28.84	6
	30	9 45 54.4	Oeltzen S. 15067	15 52 29.86	16 31 13.67	10
June	1	10 18 52.5	Oeltzen S. 15061	15 50 52.69	— 16 21 47.05	10
			THEMIS.			
May	30	10 53 32.6	Oeltzen S. 15179	15 55 30.53	— 20 56 21.47	10
			FERONIA.			
June	22	11 10 20.3	Weisse XVIII, 1314	18 53 14.16	— 12 48 43.39	10
	23	10 50 44.7	Weisse XVIII, 1314	18 52 20.40	12 47 11.24	15
July	3	11 37 47.9	Weisse XVIII, 993	18 42 43.34	12 39 20.53	7
	5	10 22 33.9	Weisse XVIII, 993	18 40 49.79	12 39 27.09	9
	6	10 21 23.3	Weisse XVIII, 993	18 39 52.30	12 39 43.02	10
	13	10 46 55.0	Weisse XVIII, 792	18 33 22.37	12 45 7.22	10
	14	9 33 55.9	Weisse XVIII, 792	18 32 31.91	12 46 20.62	12
	17	9 19 28.7	Weisse XVIII, 696	18 30 3.24	— 12 50 53.92	14
			MELETE.			
June	28	11 5 32.5	Weisse XVIII, 755	17 41 23.58	— 7 51 30.45	9
	28	11 5 32.5	Weisse XVIII, 779	17 41 23.71	7 51 28.70	9
July	3	9 37 24.0	Weisse XVIII, 755	17 37 51.71	7 52 34.99	10
	5	9 31 44.8	Weisse XVIII, 713	17 36 33.43	7 54 36.51	15
	6	9 8 52.6	Weisse XVIII, 697	17 35 56.87	— 7 55 43.46	10
			ASIA.			
July	5	11 5 12.4	Weisse XVIII, 779	18 33 11.56	— 11 22 45.97	6
	6	9 45 44.8	Weisse XVIII, 779	18 32 22.18	11 23 7.38	10
	13	9 50 54.7	Weisse XVIII, 570	18 26 33.08	11 29 38.22	10
	14	10 42 52.5	Weisse XVIII, 570	18 25 45.09	— 11 30 54.24	10
			HESTIA.			
July	13	11 39 44.2	Oeltzen S. 20595	20 25 35.46	— 15 28 43.95	10
	14	12 45 29.1	B. A. C. 7063	20 24 44.01	15 31 50.19	4
	14	12 45 29.1	Oeltzen S. 20595	20 24 44.01	15 31 50.31	4
	25	10 37 54.7	Oeltzen S. 20442	20 15 3.25	16 8 50.15	8
August	7	9 56 34.8	Oeltzen S. 20320	20 3 33.80	— 16 57 28.68	6

DATE.		MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
			CIRCE.			
1865.		h. m. s.		h. m. s.	° ′ ″	
August	11	9 3 20.7	Weisse XXI, 623	21 27 51.96	— 8 54 54.87	15
	12	9 15 38.1	Weisse XXI, 623	21 27 2.30	9 0 13.00	6
	14	8 49 6.9	Weisse XXI, 543	21 25 24.15	9 10 24.34	12
	15	9 18 27.8	Weisse XXI, 543	21 24 33.39	9 15 47.77	10
	16	8 53 29.7	Weisse XXI, 506	21 23 44.93	9 21 4.45	7
	16	8 53 29.7	Weisse XXI, 543	21 23 45.02	— 9 21 5.22	7
			URANIA.			
August	15	10 33 12.9	Weisse XVI, 1087	21 50 15.42	— 11 56 23.26	5
	19	8 53 34.6	Weisse XVI, 1087	21 46 25.68	12 11 18.11	15
	23	8 40 41.1	Weisse XVI, 1002	21 42 32.87	12 26 23.87	14
	24	9 49 4.4	Weisse XVI, 933	21 41 33.06	12 30 12.95	10
	25	8 51 58.7	Weisse XVI, 933	21 40 37.80	— 12 33 45.59	10
			DANÆ.			
August	23	11 7 42.6	Oeltzen S. 21550	21 31 52.59	— 20 42 26.15	6
	24	10 36 27.1	Oeltzen S. 21550	21 30 51.31	20 39 15.61	10
	25	10 4 32.7	B. A. C. 7490	21 29 51.14	20 34 39.74	10
	26	10 18 39.6	B. A. C. 7490	21 28 49.74	— 20 30 6.29	10
			ASTRÆA.			
September	11	9 4 38.3	Weisse XXIII, 936	23 48 5.43	— 5 55 3.17	10
	14	9 56 11.9	Weisse XXIII, 895	23 45 36.01	6 15 56.99	5
	15	9 49 39.8	Weisse XXIII, 895	23 44 46.73	6 22 50.14	10
	16	9 38 32.4	Weisse XXIII, 895	23 43 57.28	— 6 29 38.87	10
			EUPHROSYNE.			
September	11	10 41 33.8	Oeltzen S. 492	0 48 14.21	— 18 44 35.95	12
	12	10 22 58.2	Oeltzen S. 498	0 47 21.52	18 46 31.03	10
	14	10 25 46.7	Oeltzen S. 498	0 45 31.87	18 50 9.11	5
	16	10 24 48.6	Oeltzen S. 423	0 43 38.77	18 53 15.34	7
	19	10 28 4.3	Oeltzen S. 423	0 40 43.18	18 56 50.57	10
	20	10 5 37.3	Oeltzen S. 423	0 39 43.65	— 18 57 42.52	2
			FAYE'S COMET.			
September	12	8 58 40.6	* W. 134	21 47 12.05	+ 3 8 56.85	7
	16	8 50 11.3	Weisse XXI, 1037	21 44 47.55	2 30 40.97	10
	19	9 35 5.8	* W. 135	21 43 12.64	2 0 41.49	10
	20	8 39 43.8	B. A. C. 7587	21 42 44.55	1 51 15.23	5
	21	9 13 50.1	* W. 136	21 42 17.20	. . .	7
October	10	7 39 49.5	* W. 137	21 39 35.16	+ 1 21 1 73	5
			DIANA.			
September	23	10 9 13.3	Weisse XXIII, 386	23 20 51.91	+ 0 56 0.91	8
	26	9 55 23.5	B. A. C. 8169	23 18 11.06	0 45 37.65	10
	27	8 18 59.3	B. A. C. 8169	23 17 22.03	+ 0 42 18.30	10
			IO.			
September	23	11 21 55.9	Weisse I, 201	1 11 17.07	+ 12 4 32.56	6
	26	10 51 20.9	Weisse I, 55	1 9 18.36	11 33 38.15	6
	27	9 32 1.7	Weisse I, 55	1 8 39.52	11 23 32.02	10
	28	10 40 48.8	Weisse I, 62	1 7 55.49	11 12 10.67	6
	29	8 54 39.6	Weisse I, 66	1 7 16.28	11 2 1.28	20
October	2	8 51 27.2	Weisse I, 22	1 5 6.11	10 28 27.91	20
	7	9 22 37.0	Weisse I, 39	1 1 23.00	9 30 41.25	6
	9	9 1 0.2	Weisse O, 1034	0 59 54.50	9 7 35.11	13
	9	8 52 2.6	Santini 64	0 59 54.79	9 7 40.20	3
	10	9 28 30.5	Weisse O, 997	0 59 9.46	8 55 40.41	10
	11	8 45 40.6	Weisse O, 997	0 58 26.91	8 44 17.56	13
	12	9 15 53.4	Santini 58	0 57 42.02	8 32 28.96	9
	16	10 0 55.9	Weisse O, 925	0 54 50.54	7 45 56.76	9
	19	8 47 44.0	Piazzi 256	0 52 51.77	7 12 37.94	10
	20	8 27 18.3	Weisse O, 891	0 52 13.55	7 1 46.93	19
	21	8 6 51.9	Weisse O, 878	0 51 36.36	+ 6 50 56.93	10

DATE.	MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
		10—Continued.			
1865.	h. m. s.		h. m. s.	° ′ ″	
October 24	8 5 44.5	Weisse O, 829	0 49 49.05	+ 6 18 57.23	10
25	8 26 13.9	Weisse O, 829	0 49 15.08	6 8 26.28	11
26	7 36 31.8	Weisse O, 829	0 48 43.81	5 58 32.50	5
28	9 0 59.1	Weisse O, 787	0 47 40.95	5 38 2.84	6
30	7 54 18.5	Weisse O, 804	0 46 46.49	5 19 28.29	5
November 6	11 11 58.6	Weisse O, 726	0 44 12.63	4 18 20.48	5
6	11 11 58.6	Weisse O, 800	0 44 12.73	4 18 18.22	5
7	7 28 42.9	Weisse O, 726	0 43 59.23	4 11 48.04	9
8	8 31 30.2	Weisse O, 726	0 43 44.21	4 4 0.87	10
11	8 24 44.1	* W. 138	0 43 10.79	3 43 11.93	8
24	7 1 36.4	Santini 46	0 43 28.95	2 38 54.32	10
December 1	7 45 46.5	Santini 46	0 45 26.72	2 21 6.73	6
15	9 17 13.2	Weisse O, 902	0 52 47.05	2 17 25.61	5
21	7 26 55.6	Weisse O, 979	0 57 5.36	2 26 58.10	5
22	8 26 16.8	Weisse O, 979	0 57 54.70	+ 2 29 21.88	10
		IRENE.			
October 6	9 58 16.0	D. M. — 1°.267	1 51 31.02	— 1 46 8.27	10
10	10 13 38.9	Weisse I, 831	1 48 6.06	2 4 59.65	10
11	9 43 58.1	Weisse I, 819	1 47 15.37	— 2 9 8.84	10
		MNEMOSYNE.			
November 11	9 34 46.4	Weisse II, 580	2 33 16.51	+ 5 44 55.03	7
13	9 33 45.0	B. A. C. 817	2 31 54.59	5 29 50.26	11
15	7 22 28.1	B. A. C. 794	2 30 38.52	+ 5 16 1.98	10
		PHOCŒA.			
November 11	9 48 16.2	Weisse III, 316	3 18 10.15	+ 6 57 38.61	6
24	9 30 9.7	Weisse III, 145	3 9 45.74	5 20 50.35	11
27	9 23 42.1	Weisse III, 56	3 7 14.87	+ 4 52 52.37	10
		PSYCHE.			
November 25	9 40 53.2	Weisse IV, 22	4 0 34.17	+ 15 37 7.85	7

DATE.		STARS COMPARED.	STAR OF COMPARISON.	α	δ	No. of comp.
			PRÆSEPE.	1870.0.	1870.0.	
1865.				h. m. s.	° ′ ″	
February	14	G. 1	Star G.	8 29 30.07	+ 20 29 54.87	3
	14	G. 2	Star G.	8 30 34.29	20 28 39.01	3
	14	G. 3	Star G.	8 31 0.04	20 29 18.04	3
	14	G. 4	Star G.	8 31 57.86	20 27 45.09	3
	14	G. 5	Star G.	8 32 12.04	20 29 10.31	3
	14	G. 6	Star G.	8 32 54.14	20 25 43.45	3
	14	G. 7	Star G.	8 33 47.51	20 22 11.39	4
	14	G. 8	Star G.	8 34 17.10	20 32 2.82	2
April	25	G. 9	Star G.	8 30 0.32	20 36 57.56	3
	25	G. 10	Star G.	8 30 46.19	20 33 19.62	3
	25	G. 11	Star G.	8 31 15.52	20 32 33.77	3
	25	G. 12	Star G.	8 31 26.81	20 33 32.97	3
	25	G. 13	Star G.	8 31 39.13	20 34 37.71	4
	25	G. 14	Star G.	8 31 51.50	20 33 22.64	3
	25	G. 15	Star G.	8 31 55.58	20 31 23.02	3
April	27	G. 16	Star G.	8 27 23.15	20 40 33.32	3
	27	G. 17	Star G.	8 30 0.20	20 36 56.14	3
	27	G. 18	Star G.	8 30 18.32	20 41 39.81	3
	27	G. 19	Star G.	8 32 18.74	20 35 56.41	3
	27	G. 20	Star G.	8 32 22.88	20 40 30.48	3
	27	G. 21	Star G.	8 32 48.38	20 45 39.39	3
	27	G. 22	Star G.	8 33 49.66	20 39 18.78	3
	27	G. 23	Star G.	8 34 18.15	20 40 45.46	3
	27	G. 24	Star G.	8 35 32.23	20 41 26.33	3
	27	G. 25	Star G.	8 35 39.77	20 40 38.47	3
May	6	G. 26	Star G.	8 31 1.38	20 36 19.51	3
	6	G. 27	Star G.	8 31 29.31	20 39 32.47	3
	6	G. 28	Star G.	8 31 54.57	20 38 59.87	5
	6	G. 29	Star G.	8 31 57.60	20 37 38.61	5
	6	G. 30	Star G.	8 33 10.71	+ 20 24 58.02	3
			PLEIADES.			
September	29	19 *e* Taygeta	20 *c* Maia	3 37 28.35	+ 24 3 28.95	10
	29	* 62	20 *c* Maia	3 37 50.30	24 3 18.74	10
October	2	21 *k* Asterope	20 *c* Maia	3 38 9.79	24 8 48.65	7
	2	22 I	20 *c* Maia	3 38 18.68	24 7 13.63	7
	2	A. 12	20 *c* Maia	3 39 14.71	24 6 55.80	3
	20	A. 4	20 *c* Maia	3 37 53.08	23 55 37.28	4
	20	A. 6	20 *c* Maia	3 37 57.65	23 52 46.74	4
	20	* 63	20 *c* Maia	3 38 0.95	23 48 39.81	4
November	13	* 64	17 *b* Electra	3 36 5.60	23 36 27.53	5
	13	* 65	17 *b* Electra	3 36 16.78	23 44 3.30	5
	13	* 66	17 *b* Electra	3 36 40.68	23 43 17.04	5
	13	* 67	17 *b* Electra	3 38 21.13	23 38 11.16	5
	13	* 68	17 *b* Electra	3 38 23.18	23 39 10.34	3
	13	* 69	17 *b* Electra	3 36 30.38	23 36 6.82	3
	13	* 70	17 *b* Electra	3 36 32.24	23 41 23.28	3
	13	* 71	17 *b* Electra	3 37 1.76	23 38 59.66	2
November	15	* 72	16 *g* Celæno	3 36 12.81	23 50 11.30	5
	15	* 73	16 *g* Celæno	3 36 27.32	23 50 3.40	5
	15	* 74	16 *g* Celæno	3 36 33.62	23 51 38.13	5
	15	A. 6	16 *g* Celæno	3 37 57.92	23 52 51.45	5
November	15	* 75	17 *b* Electra	3 36 17.80	23 28 6.48	4
	15	* 76	17 *b* Electra	3 37 12.34	23 30 34.66	4
November	24	* 77	16 *g* Celæno	3 36 7.68	23 49 59.76	5
	24	* 78	16 *g* Celæno	3 36 21.72	23 51 45.40	5
	24	* 79	16 *g* Celæno	3 37 0.87	23 49 11.45	5
November	24	* 80	23 *d* Merope	3 38 49.93	23 27 12.66	4
	24	* 81	23 *d* Merope	3 38 50.34	23 22 50.66	4
	24	* 82	23 *d* Merope	3 39 27.92	23 22 28.47	4
	24	* 83	23 *d* Merope	3 39 34.33	23 24 20.53	4
	27	* 84	23 *d* Merope	3 38 52.42	23 33 19.40	5
	27	* 85	23 *d* Merope	3 40 18.20	23 28 30.54	4
	27	* 86	23 *d* Merope	3 40 34.42	23 29 20.16	5
December	8	* 91	17 *b* Electra	3 36 17.68	23 47 22.84	3
	8	* 92	17 *b* Electra	3 37 6.11	23 45 5.69	3
	8	* 93	17 *b* Electra	3 37 36.48	+ 23 46 8.75	3

CONSTANTS FOR THE REDUCTION OF FIXED STARS.

These constants have been prepared from the Logarithms A, B, C, and D, of the American Ephemeris and Nautical Almanac for the year 1865. The epoch to which the observations are reduced by them is 1870.0. The instant, 1870.0, is assumed to be January 0*d*.165, mean time, Washington, the moment when the Sun's mean longitude was 280°. The notation and form of publication is similar to that published in volume III of the Washington Observations, and the auxiliary tables used in the reduction are similar to those of that volume.

CONSTANTS FOR THE REDUCTION OF FIXED STARS.

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.	Log. g.	Log. h.	Log. i.	f.	t	p	D
1865.	h.	h. m. s.	h. m. s.				s.	y.		°
Jan. 1	6.79	23 40 55	11 16 13 227	1.98323 32	1.3091	0.2250 347	+ 14.683 10	+ 4.995	.0182	339
2	6.86	23 40 55	11 12 26 226	1.98291 32	1.3089	0.2597 324	14.673 10	4.992	.0181	352
3	6.92	23 40 54	11 8 40 227	1.98259 32	1.3086	0.2921 303	14.663 10	4.990	.0181	5
4	6.99	23 40 54	11 4 53 226	1.98227 32	1.3083	0.3224 281	14.653 10	4.987	.0181	18
5	7.06	23 40 54	11 1 7 227	1.98195 31	1.3080	0.3505 260	14.643 10	4.984	.0181	31
6	7.12	23 40 54	10 57 20 228	1.98164 29	1.3076	0.3765 244	14.632 11	4.981	.0181	43
7	7.19	23 40 54	10 53 32 228	1.98135 27	1.3072	0.4009 231	14.621 10	4.978	.0180	55
8	7.25	23 40 54	10 49 44 228	1.98108 26	1.3068	0.4240 219	14.611 10	4.976	.0180	67
9	7.32	23 40 55	10 45 56 230	1.98082 29	1.3064	0.4459 206	14.601 10	4.973	.0180	79
10	7.39	23 40 55	10 42 6 228	1.98053 30	1.3060	0.4665 194	14.591 10	4.970	.0180	91
11	7.45	23 40 55	10 38 18 230	1.98023 29	1.3056	0.4859 184	14.581 10	4.967	.0179	104
12	7.51	23 40 56	10 34 28 230	1.97994 29	1.3052	0.5043 177	14.571 9	4.964	.0179	117
13	7.58	23 40 56	10 30 38 231	1.97965 29	1.3048	0.5220 169	14.562 9	4.962	.0179	131
14	7.64	23 40 57	10 26 47 230	1.97936 29	1.3043	0.5389 161	14.553 9	4.959	.0179	145
15	7.71	23 40 58	10 22 57 232	1.97907 28	1.3038	0.5550 153	14.544 9	4.957	.0179	158
16	7.78	23 40 59	10 19 5 233	1.97879 27	1.3033	0.5703 146	14.535 10	4.954	.0179	171
17	7.84	23 41 0	10 15 12 231	1.97852 25	1.3028	0.5849 141	14.525 9	4.951	.0178	184
18	7.90	23 41 1	10 11 21 233	1.97827 23	1.3023	0.5990 135	14.516 9	4.949	.0178	197
19	7.97	23 41 2	10 7 28 234	1.97804 22	1.3017	0.6125 130	14.507 10	4.946	.0178	210
20	8.03	23 41 3	10 3 34 234	1.97782 24	1.3011	0.6255 125	14.497 9	4.943	.0178	223
21	8.10	23 41 4	9 59 40 236	1.97758 26	1.3005	0.6380 121	14.488 9	4.940	.0178	236
22	8.16	23 41 6	9 55 44 234	1.97732 27	1.2999	0.6501 116	14.479 9	4.937	.0177	249
23	8.23	23 41 7	9 51 50 237	1.97705 28	1.2993	0.6617 111	14.470 9	4.935	.0177	262
24	8.29	23 41 8	9 47 53 237	1.97677 28	1.2987	0.6728 106	14.461 9	4.932	.0177	276
25	8.36	23 41 9	9 43 56 237	1.97649 28	1.2981	0.6834 102	14.452 8	4.929	.0177	290
26	8.43	23 41 10	9 39 59 238	1.97621 27	1.2975	0.6936 98	14.444 8	4.926	.0177	303
27	8.49	23 41 12	9 36 1 237	1.97594 26	1.2969	0.7034 94	14.436 8	4.923	.0176	316
28	8.56	23 41 13	9 32 4 241	1.97568 26	1.2963	0.7128 92	14.428 7	4.921	.0176	329
29	8.62	23 41 14	9 28 3 239	1.97542 26	1.2957	0.7220 90	14.421 8	4.918	.0176	342
30	8.69	23 41 16	9 24 4 240	1.97516 27	1.2950	0.7310 87	14.413 8	4.916	.0176	355
31	8.76	23 41 17	9 20 4 241	1.97489	1.2943	0.7397 85	14.405 8	4.913	.0176	8
Feb. 1	8.82	23 41 19	9 16 3 243	1.97462 28	1.2936	0.7482 80	14.397 8	4.910	.0175	21
2	8.89	23 41 20	9 12 0 242	1.97434 28	1.2930	0.7562 77	14.389 8	4.907	.0175	34
3	8.95	23 41 22	9 7 58 242	1.97406 28	1.2923	0.7639 73	14.381 8	4.905	.0175	48
4	9.02	23 41 23	9 3 56 245	1.97378 28	1.2917	0.7712 70	14.373 8	4.902	.0175	61
5	9.09	23 41 24	8 59 51 243	1.97350 28	1.2910	0.7782 67	14.365 8	4.899	.0175	74
6	9.15	23 41 26	8 55 48 245	1.97322 27	1.2904	0.7849 66	14.357 8	4.896	.0174	87
7	9.22	23 41 27	8 51 43 247	1.97295 27	1.2897	0.7915 64	14.349 7	4.893	.0174	100
8	9.28	23 41 29	8 47 36 245	1.97268 27	1.2891	0.7979 63	14.342 7	4.891	.0174	113
9	9.35	23 41 30	8 43 31 247	1.97241 26	1.2884	0.8042 61	14.335 7	4.888	.0174	126
10	9.42	23 41 32	8 39 24 249	1.97215 26	1.2877	0.8103 60	14.328 8	4.885	.0173	139
11	9.48	23 41 33	8 35 15 246	1.97189 25	1.2870	0.8163 56	14.320 7	4.882	.0173	153
12	9.55	23 41 35	8 31 9 250	1.97164 25	1.2863	0.8219 54	14.313 7	4.879	.0173	167
13	9.62	23 41 36	8 26 59 249	1.97139 25	1.2857	0.8273 50	14.306 7	4.877	.0173	180
14	9.68	23 41 37	8 22 50 251	1.97114 22	1.2851	0.8323 48	14.299 7	4.874	.0173	193
15	9.75	23 41 39	8 18 39 253	1.97092 20	1.2845	0.8371 46	14.292 6	4.872	.0173	206
16	9.81	23 41 40	8 14 26 247	1.97072 18	1.2839	0.8417 45	14.286 6	4.869	.0173	219
17	9.88	23 41 42	8 10 19 252	1.97054 15	1.2833	0.8462 44	14.280 6	4.866	.0172	232
18	9.95	23 41 43	8 6 7 253	1.97039 15	1.2827	0.8506 42	14.274 5	4.864	.0172	245
19	10.01	23 41 44	8 1 54 252	1.97024 13	1.2821	0.8548 42	14.269 6	4.861	.0172	258
20	10.08	23 41 46	7 57 42 255	1.97011 12	1.2816	0.8590 41	14.263 6	4.858	.0172	271
21	10.14	23 41 47	7 53 27 254	1.96999 11	1.2810	0.8631 38	14.257 6	4.855	.0171	284
22	10.21	23 41 48	7 49 13 254	1.96988 12	1.2804	0.8669 35	14.251 6	4.852	.0171	298
23	10.27	23 41 49	7 44 59 256	1.96976 13	1.2799	0.8704 33	14.245 6	4.850	.0171	312
24	10.33	23 41 50	7 40 43 256	1.96963 15	1.2794	0.8737 30	14.239 6	4.847	.0171	325
25	10.40	23 41 51	7 36 27 255	1.96948 17	1.2789	0.8767 28	14.233 6	4.844	.0171	338
26	10.46	23 41 51	7 32 12 257	1.96931 20	1.2784	0.8795 28	14.227 6	4.841	.0170	351
27	10.53	23 41 52	7 27 55 257	1.96911 22	1.2779	0.8823 27	14.221 6	4.839	.0170	4
28	10.60	23 41 53	7 23 38	1.96889	1.2775	0.8850	+ 14.215 6	+ 4.836	.0170	17

EPOCH MEAN MIDNIGHT, WASHINGTON.

Date.	Sid. T.	G.	H.	Log. g.	Log. k.	Log. i.	f	t	p	Δ
1865.	h.	h. m. s.	h. m. s.				s.	y.		°
Mar. 1	10.67	23 41 53	7 19 22 258	1.96865 19	1.2771	0.8877 27	+ 14.209 5	+ 4.834	.0170	30
2	10.73	23 41 54	7 15 4 258	1.96846 15	1.2767	0.8904 26	14.204 5	4.831	.0170	43
3	10.80	23 41 54	7 10 46 258	1.96831 13	1.2763	0.8930 23	14.199 5	4.828	.0170	56
4	10.86	23 41 55	7 6 28 257	1.96818 12	1.2759	0.8953 19	14.194 5	4.825	.0170	69
5	10.93	23 41 55	7 2 11 259	1.96806 10	1.2756	0.8972 17	14.189 5	4.823	.0169	82
6	11.00	23 41 56	6 57 52 260	1.96796 11	1.2753	0.8989 15	14.184 5	4.820	.0169	95
7	11.06	23 41 56	6 53 32 260	1.96785 12	1.2750	0.9004 14	14.179 6	4.817	.0169	108
8	11.13	23 41 56	6 49 12 259	1.96773 14	1.2747	0.9018 13	14.173 5	4.814	.0169	121
9	11.20	23 41 56	6 44 53 260	1.96759 16	1.2744	0.9031 13	14.168 5	4.811	.0169	134
10	11.26	23 41 56	6 40 33 260	1.96743 17	1.2742	0.9044 13	14.163 5	4.809	.0169	148
11	11.32	23 41 56	6 36 13 260	1.96726 16	1.2740	0.9057 13	14.158 5	4.806	.0169	162
12	11.39	23 41 56	6 31 53 259	1.96710 15	1.2738	0.9070 13	14.153 5	4.803	.0168	176
13	11.45	23 41 55	6 27 34 260	1.96695 13	1.2736	0.9083 9	14.148 5	4.800	.0168	189
14	11.52	23 41 55	6 23 14 260	1.96682 12	1.2735	0.9092 6	14.143 4	4.797	.0168	202
15	11.59	23 41 54	6 18 54 260	1.96670 11	1.2734	0.9098 3	14.139 4	4.795	.0168	215
16	11.66	23 41 54	6 14 34 259	1.96659 10	1.2733	0.9101 1	14.135 5	4.792	.0168	228
17	11.72	23 41 53	6 10 15 260	1.96649 11	1.2732	0.9102 1	14.130 5	4.789	.0168	241
18	11.79	23 41 52	6 5 55 260	1.96638 12	1.2732	0.9101 1	14.125 5	4.786	.0168	254
19	11.85	23 41 50	6 1 35 260	1.96626 12	1.2732	0.9101 0	14.120 5	4.784	.0167	267
20	11.92	23 41 49	5 57 16 259	1.96612 14	1.2732	0.9101 0	14.115 5	4.781	.0167	280
			258	16		0	6			
21	11.98	23 41 48	5 52 58 260	1.96596 15	1.2732	0.9101 0	14.109 6	4.779	.0167	293
22	12.05	23 41 47	5 48 38 260	1.96581 14	1.2732	0.9101 1	14.103 6	4.776	.0167	306
23	12.11	23 41 46	5 44 18 259	1.96567 16	1.2733	0.9100 3	14.098 5	4.773	.0167	319
24	12.18	23 41 44	5 39 59 258	1.96551 16	1.2734	0.9097 7	14.093 5	4.770	.0166	332
25	12.24	23 41 43	5 35 41 258	1.96535 16	1.2735	0.9090 10	14.088 5	4.768	.0166	345
26	12.31	23 41 42	5 31 23 258	1.96519 17	1.2736	0.9080 13	14.083 5	4.765	.0166	358
27	12.37	23 41 40	5 27 5 258	1.96502 18	1.2738	0.9067 13	14.078 5	4.762	.0166	11
28	12.44	23 41 38	5 22 47 257	1.96484 19	1.2740	0.9054 13	14.073 5	4.759	.0166	24
29	12.50	23 41 36	5 18 30 256	1.96465 20	1.2742	0.9041 13	14.068 4	4.756	.0165	37
30	12.57	23 41 34	5 14 14 256	1.96445 19	1.2744	0.9028 13	14.064 4	4.754	.0165	51
31	12.64	23 41 32	5 9 58 256	1.96426 18	1.2747	0.9015 14	14.060 5	4.751	.0165	65
April 1	12.70	23 41 30	5 5 42 255	1.96408 16	1.2750	0.9001 15	14.055 6	4.748	.0165	79
2	12.77	23 41 27	5 1 27 255	1.96392 14	1.2753	0.8986 17	14.049 7	4.745	.0165	93
3	12.83	23 41 25	4 57 12 254	1.96378 14	1.2756	0.8969 20	14.042 6	4.742	.0164	106
4	12.90	23 41 22	4 52 58 253	1.96364 14	1.2759	0.8949 22	14.036 5	4.740	.0164	119
5	12.97	23 41 20	4 48 45 253	1.96350 15	1.2763	0.8927 25	14.031 5	4.738	.0164	132
6	13.03	23 41 17	4 44 32 252	1.96335 15	1.2767	0.8902 26	14.026 5	4.735	.0164	145
7	13.10	23 41 14	4 40 30 252	1.96320 16	1.2771	0.8876 26	14.021 5	4.732	.0164	158
8	13.17	23 41 12	4 36 8 251	1.96304 16	1.2775	0.8850 27	14.016 5	4.729	.0163	171
9	13.23	23 41 9	4 31 57 251	1.96388 16	1.2779	0.8823 28	14.011 5	4.727	.0163	184
10	13.30	23 41 6	4 27 46 249	1.96271 17	1.2784	0.8795 28	14.006 5	4.724	.0163	197
11	13.36	23 41 3	4 23 37 249	1.96254 16	1.2789	0.8767 29	14.001 5	4.721	.0163	210
12	13.43	23 41 0	4 19 28 248	1.96238 18	1.2794	0.8738 31	13.995 6	4.718	.0163	223
13	13.49	23 40 57	4 15 20 248	1.96220 19	1.2799	0.8707 34	13.989 6	4.715	.0162	236
14	13.56	23 40 54	4 11 12 248	1.96201 17	1.2804	0.8673 37	13.983 6	4.713	.0162	249
15	13.62	23 40 50	4 7 4 247	1.96184 16	1.2809	0.8636 40	13.977 5	4.710	.0162	262
16	13.69	23 40 47	4 2 57 245	1.96168 15	1.2815	0.8596 41	13.972 6	4.707	.0162	275
17	13.75	23 40 43	3 58 52 244	1.96153 14	1.2820	0.8555 42	13.966 6	4.704	.0162	288
18	13.82	23 40 40	3 54 48 244	1.96139 15	1.2826	0.8513 42	13.960 6	4.702	.0161	301
19	13.88	23 40 37	3 50 44 244	1.96124 15	1.2832	0.8471 42	13.954 6	4.700	.0161	315
20	13.95	23 40 33	3 46 40 242	1.96109 17	1.2838	0.8429 43	13.948 6	4.697	.0161	329
21	14.01	23 40 29	3 42 38 241	1.96092 19	1.2844	0.8386 45	13.942 6	4.694	.0161	343
22	14.08	23 40 25	3 38 37 241	1.96073 20	1.2850	0.8341 47	13.936 6	4.691	.0161	357
23	14.14	23 40 22	3 34 36 240	1.96053 22	1.2856	0.8294 50	13.930 7	4.688	.0160	10
24	14.21	23 40 18	3 30 36 238	1.96031 22	1.2862	0.8244 54	13.923 7	4.686	.0160	23
25	14.28	23 40 14	3 26 38 238	1.96009 21	1.2868	0.8190 58	13.916 7	4.683	.0160	36
26	14.34	23 40 10	3 22 40 238	1.95988 21	1.2874	0.8132 59	13.909 7	4.680	.0160	49
27	14.41	23 40 6	3 18 42 239	1.95967 21	1.2880	0.8073 60	13.902 7	4.677	.0159	62
28	14.48	23 40 2	3 14 43 235	1.95946 21	1.2887	0.8013 60	13.895 7	4.674	.0159	75
29	14.55	23 39 58	3 10 48 235	1.95925 21	1.2893	0.7953 61	13.888 6	4.672	.0159	88
30	14.61	23 39 54	3 6 53 235	1.95904 21	1.2900	0.7892 61	+ 13.882 6	+ 4.669	.0159	101

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID T.	G.	H.		LOG. g.		LOG. h.	LOG. i.		f	t	p	D
1865.	h.	h. m. s.	h. m. s.							s.	y.		°
May 1	14.67	23 39 49	3 2 58	234	1.95880	24	1.2906	0.7830	64	+ 13.874 8	+ 4.666	.0159	114
2	14.74	23 39 45	2 59 4	232	1.95855	25	1.2912	0.7766	67	13.866 8	4.663	.0159	127
3	14.80	23 39 41	2 55 12	232	1.95829	26	1.2918	0.7699	71	13.858 8	4.661	.0159	140
4	14.87	23 39 37	2 51 20	230	1.95803	26	1.2924	0.7628	75	13.850 8	4.658	.0158	153
5	14.93	23 39 33	2 47 30	229	1.95777	26	1.2930	0.7553	80	13.842 8	4.656	0158	166
6	15.00	23 39 29	2 43 41	231	1.95750	27	1.2937	0.7473	82	13.834 8	4.653	.0158	179
7	15.06	23 39 24	2 39 50	231	1.95723	27	1.2943	0.7391	83	13.826 8	4.650	.0158	192
8	15.13	23 39 20	2 35 59	227	1.95696	27	1.2950	0.7308	84	13.818 7	4.647	.0158	205
9	15.19	23 39 16	2 32 12	226	1.95669	27	1.2956	0.7224	86	13.811 7	4.645	.0158	218
10	15.26	23 39 12	2 28 26	227	1.95642		1.2962	0.7136	87	13.804 8	4.642	.0157	232
11	15.33	23 39 8	2 24 39	227	1.95616	26	1.2968	0.7051	92	13.796 8	4.639	.0157	246
12	15.39	23 39 4	2 20 52	224	1.95692	24	1.2974	0.6959	97	13.788 8	4.636	.0157	260
13	15.46	23 39 0	2 17 8	224	1.95670	22	1.2980	0.6862	104	13.780 9	4.633	.0157	273
14	15.53	23 38 56	2 13 24	223	1.95650	20	1.2986	0.6758	110	13.771 8	4.631	.0157	286
15	15.59	23 38 52	2 9 41	223	1.95530	20	1.2992	0.6648	118	13.763 9	4.638	.0156	299
16	15.66	23 38 48	2 5 58	223	1.95508	22	1.2997	0.6530	119	13.754 9	4.625	.0156	312
17	15.73	23 33 44	2 2 15	223	1.95484	24	1.3003	0.6411	120	13.746 8	4.622	.0156	325
18	15.79	23 38 40	1 58 32	221	1.95458	26	1.3009	0.6291	120	13.738 8	4.620	.0156	338
19	15.86	23 38 36	1 54 51	220	1.95429	29	1.3014	0.6171	120	13.729 9	4.617	.0156	351
20	15.92	23 38 32	1 51 11	220	1.95401	28	1.3019	0.6051	121	13.721 9	4.615	.0156	4
21	15.99	23 38 28	1 47 31	220	1.95376	25	1.3024	0.5930	127	13.712 9	4.612	.0156	17
22	16.06	23 38 24	1 43 51	219	1.95353	23	1.3029	0.5803	134	13.703 10	4.609	.0156	30
23	16.12	23 38 21	1 40 12	218	1.95334	19	1.3034	0.5669	142	13.693 10	4.606	.0156	43
24	16.19	23 38 17	1 36 34	218	1.95314	20	1.3039	0.5527	150	13.683 9	4.604	.0155	56
25	16.26	23 38 14	1 32 56	217	1.95294	20	1.3044	0.5377	159	13.674 9	4.601	.0155	69
26	16.32	23 38 10	1 29 19	217	1.95271	23	1.3048	0.5218	166	13.665 9	4.598	.0155	82
27	16.39	23 38 7	1 25 42	216	1.95243	28	1.3052	0.5052	174	13.656 8	4.595	.0155	95
28	16.45	23 38 3	1 22 6	216	1.95211	32	1.3056	0.4878	183	13.648 9	4.592	.0154	108
29	16.52	23 38 0	1 18 30	215	1.95279	32	1.3060	0.4695	190	13.639 9	4.590	.0154	122
30	16.58	23 37 56	1 14 55	215	1.95147	32	1.3064	0.4505	202	13.630 9	4.587	.0154	136
31	16.65	23 37 53	1 11 20	214	1.95116	31	1.3068	0.4303	213	13.621 10	4.584	.0154	150
June 1	16.71	23 37 49	1 7 46	214	1.95085	31	1.3072	0.4090	226	13.611 9	4.581	.0154	164
2	16.78	23 37 46	1 4 12	213	1.95054	31	1.3075	0.3864	240	13.602 9	4.578	.0153	177
3	16.84	23 37 43	1 0 39	213	1.95023	31	1.3078	0.3624	254	13.592 9	4.576	.0153	190
4	16.91	23 37 40	0 57 6	213	1.94992	30	1.3081	0.3370	267	13.583 9	4.573	.0153	203
5	16.98	23 37 37	0 53 33	213	1.94962	30	1.3084	0.3103	287	13.574 9	4.570	.0153	216
6	17.04	23 37 34	0 50 0	212	1.94932	30	1.3087	0.2816	312	13.565 9	4.567	.0153	229
7	17.11	23 37 31	0 46 28	212	1.94902	30	1.3090	0.2504	341	13.556 10	4.565	.0152	242
8	17.17	23 37 28	0 42 56	211	1.94872	30	1.3092	0.2163	367	13.546 10	4.562	.0152	255
9	17.24	23 37 26	0 39 25	212	1.94842	30	1.3094	0.1796	397	13.536 9	4.560	.0152	268
10	17.30	23 37 23	0 35 53	211	1.94812		1.3096	0.1399	443	13.527 10	4.557	.0152	281
11	17.37	23 37 21	0 32 22	211	1.94882	30	1.3098	0.0956	495	13.517 10	4.554	.0152	294
12	17.43	23 37 18	0 28 51	211	1.94852	30	1.3100	0.0461	560	13.507 10	4.551	.0152	307
13	17.50	23 37 16	0 25 20	211	1.94821	31	1.3101	9.9901	644	13.497 10	4.549	.0151	320
14	17.56	23 37 14	0 21 49	210	1.94690	31	1.3102	9.9257	758	13.487 10	4.546	.0151	333
15	17.63	23 37 12	0 18 19	211	1.94659	31	1.3103	9.8499	920	13.477 10	4.543	.0151	346
16	17.69	23 37 10	0 14 48	210	1.94628	31	1.3104	9.7579	1170	13.467 10	4.540	.0151	359
17	17.76	23 37 8	0 11 18	210	1.94597	31	1.3105	9.6409	1609	13.457 10	4.537	.0151	12
18	17.82	23 37 6	0 7 48	210	1.94566	31	1.3105	9.4800	2585	13 447 10	4.535	.0150	25
19	17.89	23 37 4	0 4 18	210	1.94534	32	1.3106	9.2215		13.437 10	4.532	.0150	39
20	17.96	23 37 2	0 0 48	210	1.94501	33	1.3106	8.4915		13.427 10	4.529	.0150	53
21	18.02	23 37 0	23 57 18	210	1.94466	35	1.3106	* 9.0192	3610	13.417 11	4.526	.0150	67
22	18.09	23 36 58	23 53 48	210	1.94432	34	1.3105	9.3802	1943	13.406 11	4.524	.0150	80
23	18.15	23 36 57	23 50 18	210	1.94397	35	1.3105	9.5745	1336	13.395 11	4.521	.0149	93
24	18.22	23 36 56	23 46 48	210	1.94363	34	1.3105	9.7081	1020	13.384 10	4.519	.0149	106
25	18.29	23 36 55	23 43 18	210	1.94331	32	1.3104	9.8101	824	13.374 10	4.516	.0149	119
26	18.36	23 36 54	23 39 48	211	1.94300	31	1.3103	9.8925	692	13.364 10	4.513	.0149	132
27	18.42	23 36 53	23 36 17	211	1.94269	31	1.3102	9.9617	594	13.354 10	4.510	.0149	145
28	18.49	23 36 52	23 32 46	210	1.94238	31	1.3101	0.0211	523	13.344 9	4.508	.0148	158
29	18.55	23 36 51	23 29 16	210	1.94207	31	1.3099	0.0734	465	13.335 9	4.505	.0148	171
30	18.62	23 36 50	23 25 46		1.94176		1.3097	* 0.1199		+ 13.326	+ 4.502	.0148	184

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.	LOG. *g*.	LOG. *h*.	LOG. *i*.	*f*	*t*	*p*	D
1865.	h.	h. m. s.	h. m. s.				s.	y.		°
July 1	18.68	23 36 50	23 22 15 211	1.94145 31	1.3095	n 0.1617 381	+ 13.316 10	+ 4.499	.0148	197
2	18.75	23 36 49	23 18 44 212	1.94114 30	1.3093	0.1998 349	13.306 10	4.496	.0148	210
3	18.81	23 36 49	23 15 12 212	1.94084 30	1.3091	0.2347 322	13.296 10	4.493	.0148	223
4	18.88	23 26 48	23 11 40 212	1.94054 29	1.3088	0.2669 299	13.286 9	4.491	.0148	236
5	18.94	23 36 48	23 8 8 212	1.94025 28	1.3085	0.2968 278	13.277 10	4.488	.0147	249
6	19.01	23 36 48	23 4 36 212	1.93997 27	1.3082	0.3246 260	13.267 9	4.485	.0147	262
7	19.07	23 36 47	23 1 4 212	1.93970 28	1.3079	0.3506 242	13.258 9	4.483	.0147	275
8	19.13	23 36 47	22 57 32 213	1.93942 28	1.3076	0.3748 232	13.249 9	4.480	.0147	289
9	19.20	23 36 48	22 53 59 213	1.93914 30	1.3073	0.3980 219	13.240 9	4.477	.0147	303
10	19.27	23 36 48	22 50 26 214	1.93884 35	1.3070	0.4199 206	13.231 10	4.475	.0146	317
11	19.34	23 36 48	22 46 52 214	1.93849 35	1.3066	0.4405 196	13.221 10	4.472	.0146	331
12	19.40	23 36 48	22 43 18 214	1.93814 35	1.3062	0.4601 187	13.211 10	4.469	.0146	344
13	19.47	23 36 49	22 39 44 215	1.93779 34	1.3058	0.4788 177	13.201 9	4.467	.0146	357
14	19.53	23 36 49	22 36 9 215	1.93745 32	1.3054	0.4965 168	13.192 9	4.464	.0146	10
15	19.60	23 36 49	22 32 34 215	1.93713 29	1.3050	0.5133 160	13.183 9	4.461	.0145	23
16	19.67	23 36 50	22 28 59 216	1.93684 26	1.3046	0.5293 155	13.174 9	4.458	.0145	36
17	19.74	23 36 51	22 25 23 217	1.93658 22	1.3042	0.5448 149	13.165 9	4.455	.0145	49
18	19.80	23 36 52	22 21 46 217	1.93636 17	1.3037	0.5597 143	13.156 8	4.453	.0145	62
19	19.87	23 36 53	22 18 9 218	1.93619 20	1.3032	0.5740 137	13.148 8	4.450	.0145	75
20	19.93	23 36 54	22 14 31 219	1.93599 25	1.3027	0.5877 131	13.140 8	4.447	.0144	88
21	20.00	23 36 54	22 10 52 219	1.93574 30	1.3022	0.6008 126	13.132 9	4.444	.0144	101
22	20.06	23 36 55	22 6 13 220	1.93544 35	1.3017	0.6134 122	13.123 8	4.442	.0144	114
23	20.13	23 36 56	22 3 33 220	1.93509 40	1.3012	0.6256 117	13.115 9	4.439	.0144	127
24	20.20	23 36 57	21 59 53 221	1.93469 38	1.3006	0.6373 113	13.106 8	4.436	.0144	140
25	20.26	23 36 58	21 56 12 222	1.93431 35	1.3000	0.6486 109	13.098 9	4.434	.0144	153
26	20.33	23 36 59	21 52 30 223	1.93396 32	1.2995	0.6595 105	13.089 8	4.431	.0143	166
27	20.39	23 37 0	21 48 47 222	1.93364 31	1.2989	0.6700 102	13.081 9	4.428	.0143	179
28	20.46	23 37 2	21 45 5 220	1.93333 30	1.2984	0.6802 98	13.072 8	4.426	.0143	192
29	20.53	23 37 3	21 41 25 224	1.93303 27	1.2978	0.6900 94	13.064 8	4.423	.0143	206
30	20.60	23 37 5	21 37 41 225	1.93276 25	1.2972	0.6994 90	13.056 8	4.420	.0142	220
31	20.66	23 37 6	21 33 56 226	1.93251 23	1.2966	0.7084 88	13.048 8	4.417	.0142	234
August 1	20.72	23 37 8	21 30 10 227	1.93228 22	1.2960	0.7172 86	13.040 8	4.414	.0142	247
2	20.79	23 37 9	21 26 23 226	1.93206 21	1.2954	0.7258 83	13.032 8	4.412	.0142	260
3	20.86	23 37 11	21 22 37 227	1.93185 24	1.2948	0.7341 81	13.024 7	4.409	.0142	273
4	20.92	23 37 12	21 18 50 227	1.93161 26	1.2941	0.7422 77	13.017 7	4.406	.0141	286
5	20.98	23 37 14	21 15 3 228	1.93135 29	1.2935	0.7499 73	13.010 8	4.403	.0141	299
6	21.05	23 37 15	21 11 15 229	1.93106 32	1.2928	0.7572 72	13.002 8	4.400	.0141	312
7	21.11	23 37 17	21 7 26 231	1.93074 35	1.2922	0.7644 71	12.994 8	4.398	.0141	325
8	21.18	23 37 18	21 3 35 231	1.93039 32	1.2916	0.7715 69	12.986 8	4.395	.0141	338
9	21.25	23 37 20	20 59 44 231	1.93007 28	1.2910	0.7784 68	12.978 7	4.392	.0140	351
10	21.31	23 37 21	20 55 53 232	1.92979 24	1.2904	0.7852 64	12.971 7	4.389	.0140	4
11	21.38	23 37 23	20 52 1 234	1.92955 22	1.2897	0.7916 61	12.964 7	4.386	.0140	17
12	21.44	23 37 24	20 48 7 234	1.92933 21	1.2891	0.7977 57	12.957 6	4.384	.0140	30
13	21.51	23 37 26	20 44 13 235	1.92912 21	1.2885	0.8034 56	12.951 6	4.381	.0140	43
14	21.57	23 37 28	20 40 18 236	1.92891 21	1.2879	0.8090 54	12.945 6	4.379	.0139	56
15	21.64	23 37 29	20 36 22 236	1.92870 21	1.2873	0.8144 54	12.939 6	4.376	.0139	69
16	21.70	23 37 31	20 32 26 237	1.92849 21	1.2866	0.8198 52	12.933 7	4.373	.0139	82
17	21.77	23 37 33	20 28 29 238	1.92828 20	1.2860	0.8250 50	12.926 7	4.371	.0139	96
18	21.83	23 37 34	20 24 31 238	1.92808 20	1.2854	0.8300 48	12.919 7	4.368	.0139	110
19	21.90	23 37 36	20 20 33 239	1.92788 20	1.2848	0.8348 46	12.912 7	4.365	.0138	124
20	21.97	23 37 37	20 16 34 240	1.92768 21	1.2842	0.8394 45	12.905 7	4.362	.0138	138
21	22.03	23 37 39	20 12 34 241	1.92747 22	1.2836	0.8439 43	12.898 6	4.360	.0138	151
22	22.10	23 37 40	20 8 33 241	1.92725 21	1.2830	0.8482 42	12.892 6	4.357	.0138	164
23	22.16	23 37 41	20 4 32 243	1.92704 21	1.2825	0.8524 40	12.886 6	4.354	.0138	177
24	22.23	23 37 42	20 0 29 243	1.92683 21	1.2820	0.8564 38	12.880 6	4.351	.0137	190
25	22.30	23 37 44	19 56 26 243	1.92662 21	1.2815	0.8602 36	12.874 6	4.348	.0137	203
26	22.36	23 37 45	19 52 23 243	1.92641 21	1.2809	0.8638 35	12.868 5	4.345	.0137	216
27	22.43	23 37 46	19 48 20 243	1.92620 22	1.2804	0.8673 34	12.863 5	4.343	.0137	229
28	22.50	23 37 47	19 44 15 246	1.92598 19	1.2799	0.8707 32	12.858 5	4.340	.0136	242
29	22.56	23 37 48	19 40 9 246	1.92579 19	1.2794	0.8739 29	12.853 6	4.338	.0136	255
30	22.63	23 37 49	19 36 3 247	1.92562 15	1.2789	0.8768 28	12.847 6	4.335	.0136	268
31	22.69	23 37 51	19 31 56	1.92547	1.2784	n 0.8796	+ 12.841 6	+ 4.332	.0136	281

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.	LOG. g.	LOG. h.	LOG. i.	f	t	p	)
1865.	h.	h. m. s.	h. m. s.				s.	y		°
Sept. 1	22.76	23 37 52	19 27 48 248	1.92533 16	1.2779	0.8824 28	+ 12.835 6	+ 4.330	.0136	294
2	22.82	23 37 53	19 23 40 249	1.92519 17	1.2775	0.8852 27	12.829 5	4.327	.0136	307
3	22.89	23 37 53	19 19 30 250	1.92500 17	1.2771	0.8879 25	12.824 5	4.324	.0136	320
4	22.95	23 37 54	19 15 21 251	1.92483 17	1.2767	0.8904 23	12.819 5	4.321	.0135	333
5	23.02	23 37 54	19 11 10 251	1.92466 20	1.2763	0.8927 21	12.814 6	4.318	.0135	347
6	23.08	23 37 54	19 6 59 250	1.92446 22	1.2759	0.8948 19	12.808 5	4.316	.0135	0
7	23.15	23 37 54	19 2 49 251	1.82424 22	1.2756	0.8967 17	12.803 5	4.313	.0135	13
8	23.21	23 37 55	18 58 38 252	1.92402 21	1.2753	0.8984 16	12.798 5	4.310	.0135	26
9	23.28	23 37 55	18 54 26 252	1.92381 22	1.2750	0.9000 15	12.793 5	4.307	.0135	39
10	23.34	23 37 55	18 50 14 253	1.92359 20	1.2747	0.9015 14	12.788 5	4.305	.0134	52
11	23.41	23 37 55	18 45 1 254	1.92339 18	1.2744	0.9029 14	12.783 5	4.302	.0134	65
12	23.47	23 37 55	18 41 47 254	1.92321 16	1.2742	0.9043 13	12.778 5	4.299	.0134	78
13	23.54	23 37 55	18 37 33 253	1.92305 18	1.2740	0.9056 12	12.773 5	4.297	.0134	91
14	23.60	23 37 54	18 33 20 255	1.92287 21	1.2738	0.9068 10	12.768 4	4.294	.0134	104
15	23.67	23 37 54	18 29 5 256	1.92266 15	1.2736	0.9078 8	12.764 5	4.291	.0134	117
16	23.74	23 37 54	18 24 49 255	1.92251 10	1.2735	0.9086 6	12.759 5	4.289	.0134	131
17	23.80	23 37 54	18 20 34 255	1.92241 6	1.2734	0.9092 4	12.754 5	4.286	.0134	145
18	23.87	23 37 53	18 16 19 256	1.92235 5	1.2733	0.9096 3	12.749 5	4.283	.0134	159
19	23.94	23 37 53	18 12 3 256	1.92230 9	1.2733	0.9099 2	12.744 6	4.280	.0133	173
20	0.00	23 37 52	18 7 47 257	1.92221 12	1.2732	0.9101 2	12.738 5	4.277	.0133	186
21	0.07	23 37 51	18 3 30 257	1.92209 15	1.2732	0.9103 1	12.733 5	4.275	.0133	199
22	0.13	23 37 49	17 59 14 257	1.92194 19	1.2731	0.9104 0	12.728 5	4.272	.0133	212
23	0.20	23 37 48	17 54 57 256	1.92175 22	1.2731	0.9104 1	12.723 4	4.269	.0133	225
24	0.27	23 37 47	17 50 41 257	1.92153 27	1.2732	0.9103 3	12.719 4	4.266	.0133	238
25	0.33	23 37 46	17 46 24 257	1.92126 21	1.2732	0.9100 5	12.715 4	4.264	.0132	251
26	0.40	23 37 44	17 42 7 257	1.92105 15	1.2733	0.9095 5	12.710 5	4.261	.0132	264
27	0.47	23 37 43	17 37 50 256	1.92090 10	1.2734	0.9089 6	12.704 6	4.259	.0132	277
28	0.53	23 37 41	17 33 34 256	1.92080 8	1.2736	0.9081 8	12.698 6	4.256	.0132	290
29	0.60	23 37 40	17 29 18 257	1.92072 15	1.2738	0.9072 9	12.693 5	4.253	.0132	303
30	0.66	23 37 38	17 25 1 257	1.92057 17	1.2740	0.9062 10 11	12.688 5	4.250	.0132	316
Oct. 1	0.73	23 37 36	17 20 44 257	1.92040 19	1.2742	0.9051 12	12.683 5	4.248	.0132	329
2	0.79	23 37 33	17 16 27 256	1.92021 23	1.2744	0.9039 14	12.678 5	4.245	.0132	342
3	0.85	23 37 31	17 12 11 255	1.91998 27	1.2746	0.9025 15	12.673 4	4.242	.0131	355
4	0.92	23 37 29	17 7 56 256	1.91971 29	1.2749	0.9010 17	12.669 4	4.239	.0131	8
5	0.98	23 37 26	17 3 40 256	1.91942 24	1.2752	0.8993 18	12.665 5	4.236	.0131	21
6	1.05	23 37 23	16 59 24 256	1.91918 19	1.2755	0.8975 19	12.660 5	4.234	.0131	35
7	1.12	23 37 20	16 55 8 256	1.91899 15	1.2758	0.8956 21	12.655 6	4.231	.0131	49
8	1.18	23 37 18	16 50 52 254	1.91884 18	1.2762	0.8935 22	12.649 5	4.228	.0130	63
9	1.25	23 37 15	16 46 38 254	1.91866 19	1.2766	0.8913 24	12.644 5	4.225	.0130	77
10	1.32	23 37 12	16 42 24 255	1.91847 15	1.2770	0.8889 25	12.639 6	4.222	.0130	90
11	1.39	23 37 9	16 38 9 254	1.91832 12	1.2774	0.8864 26	12.633 5	4.220	.0130	103
12	1.45	23 37 6	16 33 55 253	1.91820 10	1.2778	0.8838 28	12.628 6	4.217	.0130	116
13	1.52	23 37 3	16 29 42 253	1.91810 9	1.2783	0.8810 29	12.622 5	4.215	.0129	129
14	1.58	23 37 0	16 25 29 254	1.91801 12	1.2788	0.8781 31	12.617 5	4.212	.0129	142
15	1.65	23 36 57	16 21 15 253	1.91789 15	1.2793	0.8750 32	12.612 6	4.209	.0129	155
16	1.71	23 36 54	16 17 2 251	1.91774 18	1.2798	0.8718 34	12.606 6	4.207	.0129	168
17	1.78	23 36 50	16 12 51 250	1.91756 20	1.2803	0.8684 36	12.600 6	4.204	.0129	181
18	1.84	23 36 47	16 8 41 252	1.91736 22	1.2808	0.8648 37	12.594 5	4.201	.0129	194
19	1.91	23 36 43	16 4 29 252	1.91714 19	1.2813	0.8611 39	12.589 6	4.198	.0128	207
20	1.97	23 36 39	16 0 17 249	1.91695 20	1.2818	0.8572 41	12.583 6	4.195	.0128	220
21	2.04	23 36 35	15 56 8 249	1.91675 21	1.2824	0.8531 42	12.577 6	4.193	.0128	233
22	2.10	23 36 31	15 51 59 249	1.91654 21	1.2830	0.8489 45	12.571 6	4.190	.0128	246
23	2.17	23 36 27	15 47 50 249	1.91633 21	1.2836	0.8444 47	12.565 6	4.187	.0128	259
24	2.23	23 36 23	15 43 41 249	1.91612 21	1.2842	0.8397 49	12.559 7	4.185	.0128	272
25	2.30	23 36 19	15 39 32 248	1.91591 20	1.2848	0.8348 50	12.552 7	4.182	.0127	285
26	2.37	23 36 15	15 35 24 246	1.91571 20	1.2855	0.8298 51	12.545 7	4.179	.0127	298
27	2.43	23 36 11	15 31 18 245	1.91551 20	1.2861	0.8247 52	12.538 7	4.177	.0127	312
28	2.50	23 36 7	15 27 13 245	1.91531 20	1.2867	0.8195 55	12.531 7	4.174	.0127	326
29	2.56	23 36 3	15 23 8 245	1.91511 20	1.2873	0.8140 57	12.524 7	4.171	.0126	340
30	2.63	23 35 58	15 19 3 245	1.91491 21	1.2880	0.8083 60	12.517 6	4.168	.0126	353
31	2.70	23 35 53	15 14 59 244	1.91470	1.2886	0.8023	12.511	4.166	.0126	6

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DATE.	SID. T.	G.	H.		Log. g.		Log. h.	Log. i.		f		t	p	D
1865.	h.	h. m. s.	h. m. s.							s.		y.		°
Nov. 1	2.76	23 35 49	15 10 56	243	1.91444	27	1.2893	∗ 0.7960	66	+ 12.505	7	+ 4.163	.0126	19
2	2.83	23 35 44	15 6 53	242	1.91417	28	1.2899	0.7894	68	12.498	7	4.160	.0126	32
3	2.89	23 35 39	15 2 51	242	1.91389	27	1.2906	0.7826	70	12.491	7	4.157	.0125	45
4	2.96	23 35 35	14 58 49	242	1.91362	27	1.2912	0.7756	72	12.484	7	4.154	.0125	58
5	3.03	23 35 30	14 54 47	242	1.91335	25	1.2919	0.7684	74	12.477	8	4.152	.0125	71
6	3.09	23 35 26	14 50 45	240	1.91310	24	1.2925	0.7610	75	12.469	8	4.149	.0125	84
7	3.16	23 35 21	14 46 45	239	1.91286	24	1.2932	0.7535	79	12.461	8	4.146	.0125	97
8	3.22	23 35 17	14 42 46	239	1.91262	24	1.2938	0.7456	82	12.453	8	4.143	.0125	110
9	3.29	23 35 12	14 38 47	239	1.91238	25	1.2945	0.7374	86	12.445	8	4.140	.0124	123
10	3.36	23 35 7	14 34 48	237	1.91213	26	1.2951	0.7288	89	12.437	8	4.138	.0124	136
11	3.42	23 35 3	14 30 51	237	1.91187	27	1.2958	0.7199	94	12.429	8	4.135	.0124	149
12	3.49	23 34 58	14 26 54	236	1.91160	26	1.2964	0.7105	96	12.421	8	4.132	.0124	162
13	3.55	23 34 53	14 22 58	236	1.91134	26	1.2971	0.7009	99	12.413	8	4.129	.0124	175
14	3.62	23 34 49	14 19 2	236	1.91108	26	1.2977	0.6910	103	12.405	8	4.126	.0124	188
15	3.69	23 34 44	14 15 6	235	1.91082	28	1.2983	0.6807	106	12.397	8	4.124	.0124	202
16	3.75	23 34 40	14 11 11	234	1.91051	30	1.2989	0.6701	112	12.389	9	4.121	.0124	216
17	3.82	23 34 35	14 7 17	234	1.91024	32	1.2995	0.6589	116	12.380	9	4.119	.0124	230
18	3.88	23 34 30	14 3 23	233	1.90992	31	1.3001	0.6473	120	12.371	9	4.116	.0123	244
19	3.95	23 34 26	13 59 30	232	1.90961	31	1.3007	0.6353	125	12.362	8	4.113	.0123	257
20	4.01	23 34 21	13 55 38	232	1.90930	31	1.3013	0.6228	129	12.354	9	4.111	.0123	270
21	4.08	23 34 17	13 51 46	232	1.90899	31	1.3018	0.6099	135	12.345	9	4.108	.0123	283
22	4.14	23 34 13	13 47 54	231	1.90868	30	1.3023	0.5964	140	12.336	9	4.105	.0123	296
23	4.21	23 34 9	13 44 3	230	1.90838	30	1.3028	0.5824	147	12.327	9	4.102	.0122	309
24	4.27	23 34 5	13 40 13	230	1.90808	30	1.3034	0.5677	154	12.318	9	4.099	.0122	322
25	4.34	23 34 1	13 36 23	230	1.90778	30	1.3039	0.5523	162	12.309	9	4.097	.0122	335
26	4.40	23 33 56	13 32 33	230	1.90748	30	1.3044	0.5361	170	12.300	10	4.094	.0122	348
27	4.47	23 33 52	13 28 43	229	1.90718	30	1.3049	0.5191	178	12.290	10	4.091	.0122	1
28	4.53	23 33 47	13 24 54	229	1.90688	31	1.3054	0.5013	187	12.280	10	4.088	.0121	14
29	4.60	23 33 43	13 20 5	228	1.90657	31	1.3058	0.4826	196	12.270	10	4.086	.0121	27
30	4.67	23 33 39	13 17 17	228	1.90626	33	1.3062	0.4630	205	12.260	10	4.083	.0121	40
Dec. 1	4.73	23 33 35	13 13 29	227	1.90593	35	1.3066	0.4425	218	12.250	10	4.081	.0121	53
2	4.80	23 33 31	13 9 42	227	1.90558	37	1.3070	0.4207	232	12.240	10	4.078	.0121	66
3	4.86	23 33 27	13 5 55	227	1.90521	38	1.3074	0.3975	247	12.230	10	4.075	.0121	79
4	4.93	23 33 23	13 2 8	227	1.90483	34	1.3077	0.3728	264	12.220	10	4.072	.0120	92
5	5.00	23 33 20	12 58 21	226	1.90449	34	1.3080	0.3464	281	12.210	10	4.070	.0120	105
6	5.06	23 33 16	12 54 35	225	1.90415	34	1.3083	0.3183	300	12.200	10	4.067	.0120	119
7	5.13	23 33 13	12 50 50	225	1.90381	34	1.3086	0.2883	326	12.190	10	4.064	.0120	133
8	5.20	23 33 10	12 47 5	226	1.90347	34	1.3089	0.2557	354	12.180	10	4.061	.0120	147
9	5.26	23 33 7	12 43 19	226	1.90313	34	1.3092	0.2203	387	12.170	11	4.058	.0120	160
10	5.33	23 33 4	12 39 33	225	1.90279	35	1.3094	0.1816	427	12.159	10	4.056	.0120	173
11	5.40	23 33 1	12 35 48	225	1.90244	36	1.3096	0.1389	475	12.149	10	4.053	.0120	186
12	5.46	23 32 58	12 32 3	225	1.90208	37	1.3098	0.0914	535	12.139	10	4.050	.0119	199
13	5.53	23 32 55	12 28 18	224	1.90171	38	1.3100	0.0379	612	12.129	10	4.047	.0119	212
14	5.59	23 32 52	12 24 34	226	1.90133	36	1.3102	9.9767	715	12.119	10	4.045	.0119	225
15	5.66	23 32 50	12 20 48	226	1.90097	36	1.3103	9.9052	857	12.109	10	4.042	.0119	238
16	5.73	23 32 47	12 17 2	223	1.90061	36	1.3104	9.8195	1072	12.099	11	4.040	.0119	251
17	5.79	23 32 45	12 13 19	223	1.90025	37	1.3105	9.7123	1428	12.088	11	4.037	.0119	264
18	5.86	23 32 43	12 9 36	224	1.89988	36	1.3105	9.5695	2145	12.077	11	4.034	.0118	277
19	5.92	23 32 41	12 5 52	225	1.89952	36	1.3105	9.3550		12.066	10	4.031	.0118	290
20	5.99	23 32 49	12 2 7	225	1.89916	36	1.3106	∗ 8.9124		12.056	10	4.029	.0118	303
21	6.05	23 32 37	11 58 22	224	1.89880	36	1.3106	8.7994		12.046	10	4.026	.0118	316
22	6.12	23 32 35	11 54 38	225	1.89844	36	1.3106	9.3175	2295	12.036	10	4.023	.0118	329
23	6.18	23 32 34	11 50 53	224	1.89808	36	1.3105	9.5470	1493	12.026	10	4.020	.0118	342
24	6.25	23 32 32	11 47 9	224	1.89772	36	1.3104	9.6963	1108	12.016	10	4.017	.0117	355
25	6.31	23 32 31	11 43 25	225	1.89736	36	1.3103	9.8071	881	12.006	10	4.015	.0117	9
26	6.38	23 32 30	11 39 40	225	1.89700	36	1.3102	9.8952	731	11.995	11	4.012	.0117	23
27	6.44	23 32 29	11 35 55	225	1.89664	36	1.3101	9.9683	624	11.984	11	4.009	.0117	37
	6.51	23 32 28	11 32 10	225	1.89628	36	1.3100	0.0307	544	11.974	10	4.006	.0117	51
	7	23 32 27	11 28 25	225	1.89592	36	1.3099	0.0851	482	11.964	10	4.004	.0117	64
		23 32 26	11 24 40	225	1.89555	37	1.3097	0.1333	433	11.954	10	4.001	.0117	77
		23 32 26	11 20 55		1.89517	38	1.3095	0.1766		+ 11.945	9	3.999	.0117	90

CATALOGUE

OF

STARS OBSERVED

IN THE

YEAR 1865.

U. S. NAVAL OBSERVATORY.

CATALOGUE OF STARS OBSERVED IN THE YEAR 1865.

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1	Anonymous	6.0	0 0 10.59	1	+ 3.072	— 23 50		+ 20.06	
2	O. Arg. N. 26423	7.9	0 1 19.48	3	3.082	+ 53 4 28.8	2	20.06	
3	α Andromedæ		0 1 40.27	11	3.077	+ 28 22 23.3	8	20.06	
4	O. Arg. S. 8		0 1 41.03	1	3.076	— 19 57		20.06	
5	Santini 1	8.0	0 1 42.10	3	3.072	+ 2 43 6.1	2	20.06	
6	O. Arg. S. 9		0 1 45.05	1	3.068	— 19 58		20.06	
7	O. Arg. N. 14	8.1	0 1 57.67	3	3.087	+ 53 5 23.9	2	20.06	
8	Lacaille 9737		0 2 9		3.061	— 35 31 7.4	2	20.06	
9	Weisse 10	9.0	0 2 49.35	2	3.072	+ 1 31		20.05	
10	B. A. C. 17		0 3 39.55	1	3.070	— 6 1		20.05	
11	Weisse 41		0 3 51		3.067	— 10 0 50.2	2	20.05	Differs 8″ from Weisse.
12	Weisse 51		0 4 25.66	1	3.073	+ 3 24		20.05	
13	B. A. C. 23		0 4 57		3.056	— 28 31 24.3	2	20.05	
14	Weisse 71	9.0	0 5 19.73	1	3.072	0 54		20.05	
15	O. Arg. S. 52		0 6 1.99	1	3.059	— 19 54		20.05	
16	Weisse 88		0 6 20.28	1	3.073	+ 2 13		20.05	
17	Weisse 90	8.5	0 6 25.37	2	3.074	2 40		20.05	
18	γ Pegasi		0 6 32.59	20	3.082	+ 14 27 38.4	2	20.05	
19	B. A. C. 27		0 6 39		3.041	— 38 32 46.6	2	20.05	
20	Harvard Z. 97, 22		0 6 52.34	1	3.072	+ 0 9		20.05	
21	Lalande 130	8.5	0 6 59.88	2	3.076	5 51 26.7	2	20.05	
22	Anonymous		0 7 21.80	1	3.072	+ 0 8		20.05	
23	Weisse 102		0 7 24		3.063	— 12 1 37.8	1	20.05	
24	35 Piscium, (S. *)		0 8 18		3.079	+ 8 5 48.7	1	20.04	
25	35 Piscium, (N. *)		0 8 18		3.079	+ 8 5 58.0	2	20.04	
26	B. A. C. 42		0 9 17.03	2	3.075	3 28		20.04	
27	Anonymous	7.8	0 9 24.25	1	3.079	7 23		20.04	
28	36 Piscium	6.4	0 9 53.37	1	3.079	+ 7 30		20.04	
29	Lacaille 26		0 9 59		3.033	— 33 28 57.9	2	20.04	
30	B. A. C. 49		0 10 9		3.033	33 24 37.4	3	20.04	
31	Anonymous		0 10 16.20	1	3.056	15 11		20.04	
32	B. A. C. 59		0 11 46.91	1	3.020	— 37 13 56.1	2	20.03	Differs 1.0s. from B. A. C.
33	Weisse 196		0 12 39		3.075	+ 2 21 9.2	2	20.03	
34	O. Arg. S. 117	8.0	0 12 52.92	1	3.047	— 18 25		20.02	
35	O. Arg. S. 122	7.4	0 13 27.13	1	3.046	— 18 25		20.02	
36	Weisse 212		0 43 29	3	3.075	+ 2 18 44.1	2	20.02	
37	Lacaille 46		0 13 39		3.013	— 36 37 25.3	1	20.02	
38	Anonymous		0 13 44.35	1	3.019	— 33 29		20.02	
39	δ Piscium		0 13 54.58	3	3.083	+ 7 28		20.02	
40	Lacaille 49		0 14 24		3.067	— 30 24 28.8	2	20.02	
41	ι Sculptoris		0 14 59		3.023	29 42 1.8	1	20.01	
42	O. Arg. S. 136	6.2	0 15 11.21	2	3.039	20 47		20.01	
43	Lacaille 55	8.0	0 15 17.62	2	3.033	23 43		20.01	
44	Anonymous	9.2	0 15 17.77	1	3.033	— 23 42		20.01	
45	Weisse 247	8.2	0 15 18.58	6	3.082	+ 6 17 27.3	2	20.01	
46	Weisse 261		0 16 11		3.050	— 12 55 58.1	1	20.01	
47	Lacaille 66		0 16 51.10	1	3.014	— 30 34		20.00	
48	O. Arg. S. 160	8.0	0 17 40.41	1	3.026	— 24 7		20.00	
49	Weisse 287		0 17 54		3.077	+ 2 39 18.1	2	20.00	
50	Anonymous	9.5	0 18 10.83	1	3.085	+ 7 0		19.99	
51	O. Arg. S. 169	7.5	0 18 16.41	1	3.024	— 24 11		19.99	
52	44 Piscium		0 18 44.36	2	3.074	+ 1 13		19.99	
53	45 Piscium	6.9	0 18 59.85	8	3.085	+ 6 58 22.6	2	19.99	
54	Lacaille 82		0 19 10		3.026	— 22 21 5.6	2	19.99	
55	Lacaille 86		0 19 43		3.025	22 23 31.8	1	19.98	
56	α Phœnicis		0 19 50		2.964	43 0 41.6	1	19.98	Differs 10″ from B. A. C.
57	B. A. C. 103	5.5	0 21 28.61	1	2.988	— 33 46		19.97	
58	Anonymous		0 21 46.34	1	2.998	+ 7 22		19.97	
59	O. Arg. S. 210		0 21 49.96	1	3.023	— 20 57		19.97	
60	Anonymous	7.8	0 22 1.98	2	+ 2.977	36 25		+ 19.96	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
61	Anonymous	8.5	0 22 10.20	1	+ 3.061	— 4 40		+ 19.96	
62	Weisse 358	9.5	0 22 41.12	4	3.090	+ 7 23 56.2	2	19.96	
63	Anonymous	8.0	0 22 57.09	1	2.973	— 36 27		19.96	
64	Lalande 658	8.0	0 23 0.11	1	3.061	4 41		19.96	
65	12 Ceti		0 23 24.24	14	3.061	— 4 40 32.7	1	19.95	
66	Weisse 375	8.0	0 23 48.63	3	3.091	+ 7 47		19.95	
67	Groombridge 67		0 23 48		4.873	+ 85 36 3.6	2	19.95	
68	B. A. C. 115	5.0	0 23 52.21	1	3.009	— 24 30		19.95	
69	Lacaille 121		0 26 11		2.997	26 4 31.0	2	19.93	
70	Weisse 439	7.8	0 26 50.06	1	3.068	1 19		19.92	
71	O. Arg. S. 264	7.8	0 27 8.22	1	2.992	— 26 48 32.1	1	19.92	
72	Santini 30	7.9	0 27 13.57	5	3.079	+ 2 35		19.91	
73	Weisse 453	9.2	0 27 36.32	3	3.094	+ 7 58		19.91	
74	B. A. C. 138, (1st *)	7.4	0 27 51.45	8	3.057	— 5 15 49.1	4	19.91	
75	B. A. C. 138, (2d *)	9.2	0 27 52.46	6	3.057	— 5 16		19.91	
76	Weisse 466		0 28 15.44	1	3.083	+ 3 40		19.90	
77	13 Ceti		0 28 33.28	1	3.059	— 4 19		19.90	
78	O. Arg. S. 278	7.8	0 28 34.34	1	2.988	— 26 50		19.90	
79	Weisse 477	7.7	0 28 47.49	3	3.082	+ 3 34		19.90	
80	(* 127) W.	9.0	0 28 56.70	3	3.080	+ 2 35		19.90	
81	Lacaille 142	6.0	0 29 38.68	1	2.997	— 23 34		19.89	
82	14 Ceti	6.0	0 29 52.44	2	3.068	— 1 13		19.89	
83	Weisse 506	9.5	0 30 39.12	2	3.085	+ 4 19		19.88	
84	B. A. C. 161		0 30 48.88	2	3.079	2 25		19.88	
85	Weisse 511		0 31 20.85	1	3.086	4 25		19.87	
86	Schjellerup 213		0 31 21		3.079	+ 2 2 53.6	1	19.87	
87	15 Ceti		0 31 25.79	2	3.068	— 1 13		19.87	
88	Lacaille 157		0 32 21.25	1	2.981	— 25 49		19.86	
89	B. A. C. 167	7.2	0 32 25.37	3	3.080	+ 2 24		19.86	
90	Anonymous	9.5	0 32 44.62	1	3.078	1 45		19.85	
91	Weisse 544	7.5	0 33 5.61	2	3.082	2 56		19.85	
92	α Cassiopeæ		0 33 8.75	1	3.347	55 49		19.85	
93	Weisse 571	9.0	0 34 16.42	5	3.086	4 3		19.83	
94	Weisse 583	7.9	0 34 40.10	3	3.082	2 51		19.83	
95	Lalande 1097		0 34 54.34	1	3.076	1 2		19.82	
96	Weisse 588	8.2	0 35 4.96	1	3.082	2 55		19.82	
97	Anonymous		0 35 13.65	1	3.075	0 57		19.82	
98	Anonymous	9.0	0 35 18.37	1	3.079	2 2		19.82	
99	Anonymous	9.0	0 35 23.86	1	3.082	2 52		19.82	
100	Anonymous	9.2	0 35 24.41	2	3.080	2 9		19.82	
101	Weisse 616	8.0	0 36 33.40	1	3.094	+ 5 51		19.80	
102	β Ceti		0 37 3.75	17	3.001	— 18 42		19.80	
103	Anonymous	7.7	0 38 14.01	50	3.082	+ 2 29 21.3	46	19.78	
104	Anonymous	7.7	0 39 56.93	1	3.081	2 16		19.75	
105	Weisse 694	9.0	0 40 57.95	5	3.081	2 17		19.74	
106	Anonymous	9.1	0 41 5.29	4	3.081	+ 2 13		19.73	
107	O. Arg. S. 423	6.0	0 41 14.38	4	2.991	— 18 46 22.5	3	19.73	
108	δ Piscium		0 41 56.33	8	3.101	+ 6 53		19.72	
109	O. Arg. S. 428	8.0	0 42 2.91	1	3.004	— 15 28		19.72	
110	Anonymous	8.9	0 42 45.13	7	3.082	+ 3 2		19.71	
111	Anonymous		0 42 50.16	1	3.104	7 19		19.71	
112	Weisse 726	9.0	0 42 51.06	3	3.090	4 13 8.1	1	19.71	
113	(* 138) W.		0 43 2		3.088	3 34 32.6	1	19.70	
114	Rumker N. F. 329	8.8	0 43 7.57	3	3.116	10 2 47.2	1	19.70	
115	Weisse 733		0 43 19.78	3	3.103	6 57		19.70	
116	Weisse 742		0 43 45.30	2	3.101	6 24		19.69	
117	Weisse 749		0 44 10.76	1	3.105	7 20		19.69	
118	Santini 46		0 44 37		3.084	2 40 48.5	1	19.68	
119	Weisse 770	9.3	0 44 55.56	4	3.087	3 19		19.67	
120	Weisse 775	8.1	0 45 13.88	6	3.087	3 21		19.67	
121	Rumker N. F. 354	8.6	0 45 21.00	3	3.118	9 53 40.3	1	19.67	[tion.
122	Weisse 786	9.0	0 45 55.46	2	3.120	10 12 24.9	1	19.65	Error of 1′ in Weisse's reduc-
123	Weisse 787	9.0	0 45 57.00	3	3.100	5 57 31.5:	1	19.65	
124	Weisse 800, (1st *)	9.0	0 46 36.63	3	3.092	4 17 57.4	1	19.64	Differs 9″ from Weisse.
125	Weisse 800, (2d *)	9.5	0 46 36.75	1	+ 3.092	+ 4 18		+ 19.64	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
126	Anonymous	7.6	0 46 37.86	4	+ 3.088	+ 3 20		+ 19.64	
127	Weisse 804	8.8	0 46 52.14	4	3.097	5 16 47.8	1	19.64	
128	Weisse 807	8.5	0 47 3.58	4	3.122	+ 10 25 1.6	1	19.64	
129	O. Arg. S. 492	9.1	0 47 31.93	5	2.979	— 18 42 28.2	2	19.63	
130	O. Arg. S. 498	8.8	0 47 41.00	5	2.978	— 18 44 2.1	2	19.62	
131	Weisse 829	8.0	0 48 35.18	4	3.102	+ 6 8 56.9	3	19.61	
132	Weisse 836	8.0	0 49 5.28	4	3.049	— 4 41 52.4	3	19.60	
133	Weisse 845		0 49 25.25	3	3.050	— 4 26 31.8	3	19.59	
134	Anonymous	8.0	0 49 35.25	1	3.103	+ 6 10		19.59	
135	Lacaille 256		0 49 36		2.816	— 28 28 50.4	1	19.59	
136	Anonymous		0 50 23.65	1	3.104	+ 6 10		19.57	
137	Weisse 871	8.0	0 51 0.88	1	3.079	1 23		19.56	
138	Weisse 878		0 51 13.12	2	3.108	6 54 29.6	2	19.56	
139	Anonymous	8.3	0 51 51.33	1	3.108	+ 6 56		19.55	
140	O. Arg, S. 542	7.0	0 51 58.60	1	2.914	— 27 48		19.54	
141	Weisse 891	9.0	0 52 13.91	6	3.109	+ 7 1 2.1	3	19.54	
142	Weisse 917	9.0	0 53 24.84	1	3.094	4 12		19.52	
143	Lalande 1737	8.0	0 53 55.15	1	3.120	8 47		19.50	
144	Weisse 925	9.0	0 53 57.17	4	3.116	8 0 4.1	3	19.50	
145	Weisse 928	7.3	0 54 7.44	7	3.094	4 8		19.50	
146	Weisse 931	8.7	0 54 18.63	4	3.116	+ 8 3		19.50	
147	Weisse 935	8.0	0 54 26.02	4	3.043	— 5 20 48.9	3	19.49	
148	Piazzi 256	8.0	0 54 26.64	2	3.113	+ 7 20 4.0	2	19.49	
149	Weisse 944	7.7	0 54 56.02	1	3.123	9 3		19.49	
150	Weisse 946	9.0	0 55 1.11	1	3.122	8 54		19.48	
151	70 Piscium	8.0	0 55 21.39	3	3.112	7 14		19.47	
152	B. A. C. 286	6.5	0 55 43.72	3	3.118	8 4		19.46	
153	Santini 58	7.0	0 55 55.54	4	3.120	8 26 5.0	3	19.46	
154	ϵ Piscium		0 56 11.88	41	3.113	+ 7 11 23.3	1	19.46	
155	25 Ceti	6.0	0 56 28.07	1	3.040	— 5 31 54.2	3	19.45	
156	Weisse 997	8.0	0 57 51.36	4	3.124	+ 8 53 18.8	2	19.42	
157	Anonymous		0 58 47.11	1	3.131	+ 9 50		19.40	
158	Lacaille 301		0 59 21		2.897	— 27 38 57.5	1	19.39	
159	Weisse 1031		0 59 26.55	2	3.084	+ 1 56		19.39	
160	Weisse 1034	9.5	0 59 39.09	5	3.128	+ 9 13 9.9	2	19.38	
161	Weisse 1041	8.3	0 59 46.43	4	3.063	— 1 26 38.7	2	19.38	
162	Lacaille 303		0 59 51		2.913	24 41 14.1	1	19.38	
163	Weisse 1054	8.9	1 0 26.06	3	3.064	1 17 9.9	2	19.36	
164	O. Arg. S. 636	7.0	1 0 54.08	1	2.905	25 33		19.33	
165	Lacaille 310		1 0 55		2.913	— 24 41 26.0	1	19.33	
166	Santini 64	6.3	1 1 34.06	3	3.130	+ 9 12 49.4	2	19.33	
167	Anonymous		1 2 20.87	2	3.148	11 59		19.32	
168	Weisse 13		1 3 10.31	4	3.149	11 58 49.4	1	19.30	
169	Weisse 20	9.2	1 3 31.95	3	3.086	2 18 26.3	1	19.29	
170	Weisse 22	8.3	1 3 46.28	2	3.140	+ 10 27 17.6	3	19.29	
171	O. Arg. S. 665		1 3 49		2.998	— 26 53 9.9	1	19.28	
172	Weisse 39	6.7	1 4 40.41	6	3.135	+ 9 36 0.3	3	19.26	
173	Weisse 42	8.8	1 4 45.11	1	3.149	11 39		19.26	
174	Weisse 55	7.1	1 5 29.54	4	3.149	11 35 33.7	2	19.24	
175	Anonymous		1 5 35.85	3	3.157	12 20 52.7	1	19.24	
176	Weisse 62	9.0	1 5 55.83	3	3.148	11 18 4.9	2	19.23	
177	Weisse 65	8.3	1 6 16.08	1	3.146	11 3		19.22	
178	Weisse 66	7.8	1 6 18.49	2	3.146	10 59 31.5	2	19.22	
179	Anonymous		1 6 21.33	2	3.087	2 14		19.22	
180	ζ Piscium, (1st *)		1 6 56.37	2	3.118	6 53		19.21	
181	Weisse 76		1 6 57.64	1	3.141	10 10		19.21	
182	ζ Piscium, (2d *)		1 6 57.80	2	3.119	+ 6 53		19.21	
183	38 Ceti		1 8 12		3.061	— 1 40 11.7	1	19.17	
184	40 Ceti		1 10 21		3.052	— 2 57 38.1	1	19.12	
185	Polaris		1 11 18		20.016	+ 88 36 58.1		19.09	
186	Polaris, S. P.		1 11 18		20.016	88 36 57.7		19.09	
187	Anonymous	9.5	1 13 21.33	1	3.088	2 14		19.04	
188	Weisse 188	9.0	1 13 21.90	1	3.170	13 5		19.04	
189	Lalande 2410	8.6	1 13 45.72	3	3.168	12 47 5.6	1	19.03	
190	Anonymous		1 13 53.88	1	+ 3.250	+ 22 47		+ 19.02	

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191	Weisse 201		1 13 57.62	1	+ 3.164	+ 12 10 45.2	3	+ 19.02	
192	Weisse 208		1 14 32.60	1	3.157	11 15		19.01	
193	Anonymous	9.1	1 16 0.73	2	3.116	5 45		18.96	
194	Weisse 255	8.1	1 17 0.65	5	3.117	5 49		18.94	
195	δ Cassiopeæ		1 17 21		3.826	+ 59 33 32.2	1	18.93	
196	θ Ceti		1 17 31.54	24	3.003	— 8 51		18.92	
197	Weisse 269	8.0	1 17 38.07	5	3.117	+ 5 48 19.0	1	18.92	
198	Weisse 288		1 18 29		3.020	— 6 37 25.0	1	18.89	
199	ρ Piscium		1 19 15		3.224	+ 18 29 43.4	1	18.87	
200	94 Piscium		1 19 40		3.225	18 34 0.4	1	18.86	
201	Weisse 328	8.7	1 20 33.81	6	3.123	6 17 15.3	3	18.83	
202	Anonymous		1 21 20.37	1	3.123	+ 6 17		18.81	
203	Weisse 362	8.0	1 22 28.27	2	3.019	— 6 22		18.77	
204	Weisse 381	7.1	1 23 20.32	5	3.020	— 6 16 3.9	2	18.75	
205	μ Piscium		1 23 22.38	1	3.118	+ 5 28		18.75	
206	Weisse 389	9.0	1 23 50.83	4	3.078	0 41 17.5	2	18.73	
207	η Piscium		1 24 31.78	13	3.198	+ 14 40		18.71	
208	Weisse 402	8.0	1 24 35.31	5	3.019	— 6 12 53.1	2	18.71	
209	Lacaille 435		1 25 49		2.808	28 22 23.1	1	18.67	
210	Weisse 441		1 26 32		3.051	— 2 27 32.3	1	18.64	
211	Weisse 468	8.4	1 28 5.61	4	3.203	+ 14 36 16.3	1	18.59	
212	Lacaille 452		1 28 15		2.806	— 28 1 48.3	1	18.59	
213	Lacaille 458	6.5	1 28 59.33	1	2.773	— 30 34		18.56	
214	B. A. C. 481		1 29 14.85	1	3.134	+ 6 59		18.55	
215	Lacaille 462	5.5	1 30 7.73	1	2.769	— 30 35		18.52	
216	Weisse 508		1 30 35		3.089	+ 1 55 8.3	1	18.51	
217	Weisse 511		1 31 38		3.090	1 55 26.2	1	18.47	
218	Weisse 557	9.0	1 32 55.60	1	3.209	14 36		18.43	
219	Weisse 558		1 32 56.45		3.209	14 36		18.43	
220	Weisse 576		1 33 35.65	2	3.132	6 26		18.41	
221	Weisse 578	8.7	1 33 43.40	2	3.214	14 57 40.4	1	18.40	
222	Anonymous	9.2	1 34 0.62	1	3.101	3 4		18.39	
223	Weisse 601	8.0	1 34 23.91	1	3.101	3 3		18.38	
224	ν Piscium		1 34 40.06	6	3.117	4 50		13.37	
225	Weisse 612		1 34 47.32	3	3.140	+ 7 15		18.36	
226	B. A. C. 527		1 36 17		2.718	— 39 58 55.0	1	18.31	
227	o Piscium		1 38 31.88	16	3.155	+ 8 30		18.23	
228	Anonymous	7.6	1 39 11.47	1	3.099	2 45 57.0	1	18.21	
229	Weisse 732		1 41 39		3.209	13 24 50.1	1	18.12	
230	Anonymous	8.0	1 41 44.96	1	3.143	7 0		18.11	
231	Santini 102	8.3	1 41 50.90	2	3.143	+ 7 2		18.11	
232	Lacaille 527		1 42 36		2.778	— 26 54 6.0	3	18.08	
233	54 Ceti		1 43 58.23	1	3.180	+ 10 24		18.03	
234	Weisse 772	8.0	1 44 15.37	3	3.154	7 54		18.02	
235	Weisse 780	9.0	1 44 30.60	2	3.153	+ 7 52		18.01	
236	Weisse 812	8.2	1 46 10.11	2	3.051	— 2 1		17.94	
237	Weisse 819	8.2	1 46 30.57	3	3.051	— 1 57		17.93	
238	Weisse 820	9.2	1 46 36.47	4	3.163	+ 8 36 45.1	1	17.93	
239	Weisse 831	9.0	1 47 9.06	3	3.051	— 2 0		17.90	
240	β Arietis		1 47 27.72	23	3.294	+ 20 11		17.89	
241	Weisse 843		1 47 50.99	1	3.052	— 1 51		17.88	
242	Lacaille 569		1 50 19		2.607	— 36 52 57.4	1	17.78	
243	Weisse 880		1 50 33.87	1	3.173	+ 9 15 7.0	1	17.77	
244	58 Ceti		1 51 24		3.043	— 2 41 38.9	1	17.74	
245	50 Cassiopeæ		1 52 22.92	1	4.988	+ 71 48		17.69	
246	Durchmusterung 1°.217		1 52 31.44	3	3.054	— 1 37		17.69	
247	Anonymous		1 57 5.54	1	3.178	+ 9 25		17.49	
248	Weisse 1018	7.8	1 58 5.84	3	3.182	9 30		17.45	
249	Weisse 1022	8.1	1 58 28.60	3	3.182	9 27 10.9	1	17.43	
250	Weisse 1045	8.0	1 59 44.75	3	3.188	9 51 22.2	1	17.38	
251	α Arietis		1 59 50.96	22	3.353	+ 22 51		17.38	
252	Lacaille 638		2 2 17		2.707	— 28 11 20.8	2	17.27	
253	Weisse 56	9.0	2 5 33.87	1	3.211	+ 11 16		17.12	
254	Weisse 61	8.0	2 5 51.75	2	3.211	11 15		17.11	
255	ξ^1 Ceti		2 6 6.70	9	+ 3.173	+ 8 14		+ 17.10	

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256	67 Ceti		2 10 29.96	2	+ 2.983	− 7 1		+ 16.89	
257	O. Arg. S. 1489		2 13 57		2.740	24 13 51.8	1	16.73	
258	Lalande 4410	6.0	2 15 57.45		2.825	− 18 15		16.63	
259	Weisse 235		2 16 3		3.176	+ 6 57 6.4	1	16.62	
260	Lacaille 711		2 16 17		2.666	− 28 27 17.6	2	16.61	
261	κ Fornacis		2 16 36		2.731	24 24 27.4	1	16.60	
262	O. Arg. S. 1554		2 19 58		2.724	− 24 25 47.0	1	16.43	
263	ξ^2 Ceti		2 21 14.94	1	3.179	+ 7 53		16.37	
264	B. A. C. 773		2 23 58		2.733	− 23 15 51.8	1	16.23	
265	B. A. C. 775		2 24 36		2.735	23 7 22.1	2	16.19	
266	Lacaille 771		2 26 7		2.723	23 39 36.0	1	16.12	
267	Weisse 437		2 27 26		2.980	6 34 44.3	1	16.05	
268	Lacaille 792		2 29 33		2.609	29 15 56.6	1	15.94	
269	δ Ceti		2 32 50		3.069	0 14 0.4	1	15.76	
270	Lacaille 813		2 33 9		2.653	− 26 18 15.6	1	15.74	
271	Anonymous	9.0	2 33 22.90	2	3.402	+ 21 40		15.73	
272	B. A. C. 817		2 33 25		3.153	5 33 6.7	1	15.73	
273	Weisse (2) 805	8.4	2 34 6.50	2	3.403	21 41		15.69	
274	Weisse 580		2 34 17		3.152	5 30 47.3	1	15.68	
275	γ Ceti		2 36 33.98	5	3.112	2 41 12.1	1	15.56	
276	Weisse 615		2 36 39.58	3	3.263	+ 12 44		15.55	
277	π Ceti		2 37 54.94	1	2.853	− 14 25		15.48	
278	Lacaille 865		2 40 25		2.655	+ 25 52 49.7	1	15.34	
279	π Arietis		2 42 2.50	1	3.336	16 55		15.25	
280	41 Arietis		2 42 19		3.510	26 43 23.5	1	15.23	
281	Weisse 728		2 43 19.95	2	3.272	+ 12 55		15.18	
282	γ Fornacis		2 44 5		2.661	− 25 5 44.0	1	15.13	
283	Weisse 746	9.0	2 44 22.20	3	3.274	+ 12 57		15.12	
284	Lacaille 900		2 45 44		2.541	− 30 58 19.1	1	15.04	
285	Weisse 841		2 49 4.39	3	3.286	+ 13 23 16.9	1	14.84	
286	O. Arg. S. 1910	8.5	2 50 7.91	1	2.674	− 23 45		14.78	
287	ε Arietis		2 51 46.90	1	3.418	+ 20 49		14.68	
288	(* 132) W.	9.8	2 52 40.38	1	3.296	13 46		14.63	
289	α Ceti		2 55 29.16	8	3.130	+ 3 35		14.46	
290	Weisse 970		2 55 45		2.958	− 7 0 11.3	2	14.44	Differs 9″ from Weisse.
291	Weisse 1001	8.4	2 57 50.92	3	3.274	+ 12 9 8.4	2	14.32	
292	B. A. C. 978		3 2 18		2.557	− 28 19 47.6	1	14.04	
293	δ Arietis		3 4 11.96	4	3.407	+ 19 14		13.92	
294	B. A. C. 987	6.2	3 4 13.65	3	3.286	12 33 11.3	2	13.92	
295	Weisse 56	9.0	3 5 7.72	2	3.154	+ 4 56 32.8	1	13.86	
296	12 Eridani		3 6 33		2.522	− 29 30 23.4	1	13.77	
297	ζ Arietis		3 7 25.93	8	3.438	+ 20 34		13.72	
298	Anonymous		3 7 56		2.522	− 29 22 31.2	1	13.68	
299	Weisse 139		3 9 14.50	3	3.306	+ 13 22 10.2	1	13.60	
300	Weisse 145		3 9 39.06	2	3.164	5 21 45.1:	1	13.57	
301	Weisse 168	8.2	3 10 41.44	3	3.307	13 22 7.4	1	13.51	
302	60 Arietis		3 12 45		3.541	+ 25 11 33.6	2	13.37	
303	Weisse 228	9.0	3 13 34.66	4	3.011	− 3 29		13.32	
304	Weisse 240	8.1	3 14 17.78	4	3.009	− 3 35		13.27	
305	Weisse 251		3 14 51		3.227	+ 8 45 53.8	1	13.23	
306	α Persei		3 15 3.17	4	4.245	49 24		13.22	
307	τ^2 Arietis		3 15 18		3.444	20 16 31.6	2	13.20	
308	Weisse 295	8.3	3 17 56.00	1	3.243	9 33		13.03	
309	Weisse 316		3 18 57.64	1	3.198	+ 7 2 18.8:	1	12.96	
310	Anonymous		3 20 7		2.533	− 27 43 47.6	1	12.88	
311	Weisse 334	6.5	3 20 9.13	1	3.295	+ 12 17		12.88	
312	B. A. C. 1073		3 20 54		2.531	− 27 46 28.8	1	12.83	
313	Lacaille 1108	6.5	3 22 31.28	1	2.317	− 36 8		12.72	
314	Rumker, N. F., 875	8.0	3 23 5.52	1	3.301	+ 12 27		12.68	
315	Lacaille 1111	7.0	3 23 10.47	1	3.311	− 36 18		12.68	
316	f Tauri		3 23 41.90	3	3.302	+ 12 30		12.64	
317	Lacaille 1113		3 23 56		2.611	− 23 55 33.7	2	12.63	
318	O. Arg. S. 2343		3 26 54.01	1	2.559	26 6		12.42	
319	Lacaille 1137		3 29 20		2.555	26 1 5.5	1	12.26	
320	B. A. C. 1109		3 29 22		+ 2.402	− 32 18 38.6	2	+ 12.26	

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			h. m. s.		s.	° ′ ″		″	
321	O. Arg. S. 2388		3 30 22		+ 2.600	— 23 56 57.2	1	+ 12.18	
322	Weisse 575	8.1	3 31 56.91	2	3.115	+ 2 18		12.08	
323	Weisse 580	6.9	3 32 9.02	2	3.116	2 20		12.06	
324	δ Persei		3 33 40		4.188	+ 47 22 10.0	2	11.95	
325	Lacaille 1171		3 34 31.44	1	2.477	— 28 55 46.6	1	11.89	
326	Rumker, N. F., 952		3 36 40.56	1	3.548	+ 23 43		11.74	
327	17 Tauri		3 37 9.47	1	3.549	23 42 6.5	1	11.71	
328	1 Pleiadum		3 37 43.21	1	3.548	23 38		11.67	
329	7 Pleiadum		3 38 8.65	1	3.549	23 38		11.63	
330	8 Pleiadum	8.5	3 38 30.22	1	3.553	23 47		11.61	
331	9 Pleiadum	8.5	3 38 32.38	2	3.553	23 47		11.61	
332	23 Tauri		3 38 36.78	1	3.547	23 31		11.60	
333	10 Pleiadum		3 38 43.48	1	3.554	23 51		11.60	
334	13 Pleiadum		3 39 21.03	1	3.549	23 35		11.55	
335	15 Pleiadum		3 39 33.05	1	3.543	23 43		11.54	
336	24 Tauri		3 39 37.49	1	3.543	23 43		11.53	
337	Anonymous		3 39 38.45	1	3.541	23 38		11.53	
338	Weisse (2) 862		3 39 39.62	3	3.678	28 59 16.9	1	11.53	
339	Anonymous		3 39 45.53	1	3.554	23 47		11.52	
340	η Tauri		3 39 45.60	10	3.552	23 42 4.0	2	11.52	
341	29 Pleiadum		3 40 45.61	2	3.560	23 57		11.45	
342	e Tauri		3 41 8.74	1	3.281	10 45		11.42	
343	Anonymous		3 41 13.57	1	3.554	23 41		11.42	
344	27 Tauri		3 41 26.04	1	3.554	23 39 10.4	1	11.40	
345	28 Tauri		3 41 27.33	1	3.556	23 44 13.8	2	11.40	
346	Anonymous		3 41 29.03	1	3.555	23 41		11.40	
347	Anonymous	9.0	3 41 37.07	1	3.557	23 46		11.39	
348	Anonymous	8.8	3 42 11.87	1	3.558	23 46		11.34	
349	B. A. C. 1188		3 42 14.80	1	3.550	+ 23 27		11.34	
350	Lacaille 1239		3 43 33		2.522	— 26 25 50.2	2	11.25	
351	ζ Persei		3 45 57.78	3	3.755	+ 31 30		11.07	
352	O. Arg. S. 2623	7.0	3 48 20.18	1	2.582	— 23 34		10.90	
353	O. Arg. S. 2637	8.5	3 48 55.92	2	2.639	21 4		10.85	
354	Lacaille 1284		3 50 10		2.514	26 18 36.7	1	10.76	
355	O. Arg. S. 2666		3 50 22		2.513	26 19 30.6	1	10.75	
356	B. A. C. 1229		3 50 24.43	1	2.791	13 59		10.75	
357	Lacaille 1291		3 50 56		2.419	30 2 19.2	1	10.71	
358	Anonymous		3 51 14		2.684	18 55 52.8	1	10.68	
359	γ Eridani		3 51 57.88	6	2.792	13 52 46.1:	1	10.63	
360	O. Arg. S. 2696	9.0	3 52 31.67	2	2.476	28 15		10.59	
361	τ^6 Eridani		3 54 23		2.555	24 23 12.0	2	10.45	
362	Anonymous	9.2	3 55 28.00	1	2.623	21 24		10.37	
363	O. Arg. S. 2741	8.0	3 56 14.19	1	2.623	— 21 23		10.31	
364	A^1 Tauri		3 57 0.77	2	3.530	+ 21 44		10.25	
365	O. Arg. S. 2761	8.0	3 57 21.13	1	2.464	— 27 52		10.23	
366	Anonymous		3 58 52.43		3.541	+ 22 6		10.12	
367	Anonymous	8.0	4 0 8.82	1	3.515	+ 20 56		10.02	
368	B. A. C. 1273		4 0 16		2.456	— 28 0 31.8	1	10.01	
369	Lacaille 1346	8.0	4 0 28.74	1	2.365	— 31 23		9.99	
370	Anonymous		4 0 45.19	1	3.396	+ 15 37		9.97	
371	Anonymous	8.0	4 1 40.84	1	3.399	+ 15 41		9.90	
372	O. Arg. S. 2828	9.0	4 2 1.44	1	2.459	— 27 46		9.88	
373	Anonymous	9.0	4 2 9.88	1	2.912	7 48		9.86	
374	O. Arg. S. 2848		4 3 31		2.518	25 21 45.2	1	9.76	
375	37 Eridani		4 4 2.10	1	2.923	7 16		9.72	
376	Anonymous	8.8	4 4 5.20	2	2.447	28 8		9.72	
377	Lacaille 1370		4 4 32		2.516	25 23 3.5	2	9.69	
378	Lalande 7819	7.5	4 4 32.04	1	2.883	— 9 9		9.68	
379	Weisse (2) 65	9.0	4 5 9.79	4	3.442	+ 17 29 51.7	1	9.63	
380	o^1 Eridani		4 5 31.22	2	2.924	— 7 10 42.1	1	9.61	
381	Weisse 81	8.0	4 5 40.15	1	2.883	9 10		9.60	
382	Anonymous	9.0	4 6 19.79	1	2.930	— 6 52		9.54	
383	Anonymous	9.0	4 6 33.99	2	3.789	+ 31 22		9.53	
384	Weisse (2) 118	7.7	4 7 41.18	4	3.791	31 22		9.44	
385	Weisse (2) 120	8.2	4 7 44.12	4	+ 3.792	+ 31 23		+ 9.44	

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386	Anonymous		4 8 10		+ 2.345	— 31 36 53.6	1	+ 9.40	
387	Weisse (2) 152	7.0	4 9 24.74	1	3.409	+ 15 53		9.31	
388	ω^2 Tauri		4 9 38.79	2	3.509	20 15 22.9	2	9.29	
389	Weisse (2) 166	9.0	4 9 50.08	1	3.509	20 14		9.27	
390	Weisse (2) 183	8.2	4 10 30.49	5	3.456	17 56 7.8	1	9.22	
391	γ Tauri		4 12 23.87	16	3.399	15 18 43.1:	1	9.07	
392	Weisse (2) 244		4 12 28.40	1	3.419	+ 16 12		9.07	
393	B. A. C. 1334		4 13 6		2.558	— 23 17 20.6	2	9.02	
394	58 Tauri	5.0	4 13 14.09	1	3.388	+ 14 47		9.01	
395	Anonymous	8.0	4 14 0.63	1	2.334	— 31 39		8.95	
396	B. A. C. 1355		4 16 7.58	1	2.485	26 2 7.7	1	8.78	
397	O. Arg. S. 3022	8.5	4 16 9.83	1	2.485	— 26 1 32.0	1	8.78	
398	Weisse (2) 326		4 16 19		3.539	+ 21 14 8.0	1	8.77	
399	Weisse (2) 350	8.6	4 17 29.87	2	3.747	+ 29 14		8.67	
400	Lacaille 1431		4 17 42		2.504	— 25 11 46.5	2	8.66	
401	Anonymous	8.5	4 17 52.01	1	2.417	28 29		8.65	
402	O. Arg. S. 3044	8.8	4 18 12.37	2	2.433	27 54		8.62	
403	O. Arg. S. 3061	8.0	4 19 37.74	1	2.416	— 28 27		8.50	
404	ϵ Tauri		4 21 1.68	10	3.487	+ 18 53 25.4	1	8.40	
405	Weisse (2) 436	7.5	4 21 18.16	1	3.666	+ 27 7		8.37	
406	Lacaille 1463	6.7	4 22 42.35	1	2.290	— 32 42		8.26	
407	O. Arg. S. 3108		4 22 45		2.545	23 23 34.5	1	8.26	Differs 7″ from Argelander.
408	Weisse 471	8.8	4 23 11.38	1	2.840	10 46		8.22	
409	Anonymous		4 23 19		2.461	26 34 56.0	1	8.21	
410	Anonymous	7.2	4 23 40.06	1	2.535	— 23 45		8.18	
411	Weisse (2) 505		4 23 56.74	2	3.412	+ 15 32		8.16	
412	Lacaille 1474		4 24 15		2.461	— 26 33 46.7	1	8.14	
413	85 Tauri		4 24 26.30	2	3.413	+ 15 34		8.12	
414	Weisse (2) 512	7.9	4 24 27.56	2	3.640	+ 24 54 17.7	1	8.12	
415	Lacaille 1485	7.8	4 24 46.58	2	2.389	— 29 10		8.10	
416	Lacaille 1483		4 25 4		2.545	23 18 25.9	2	8.08	
417	Lacaille 1491	7.2	4 26 9.84	3	2.387	29 10		7.98	
418	Lacaille 1501	7.2	4 26 54.30	1	2.389	29 5		7.92	
419	υ^6 Eridani		4 28 24.64	1	2.360	— 30 2		7.81	
420	α Tauri		4 28 27.78	28	3.431	+ 16 14 45.8	4	7.80	
421	Anonymous	8.0	4 29 3.34	1	2.336	— 30 49		7.75	
422	Weisse (2) 620		4 29 27.48	2	3.660	+ 25 27 41.2	2	7.72	
423	Lacaille 1521		4 29 32		2.489	— 25 18 27.4	1	7.72	
424	υ^7 Eridani	4.2	4 30 29 98	3	2.334	30 50		7.63	
425	B. A. C. 1439	6.3	4 31 48 24	2	2.328	30 59		7.53	
426	Lacaille 1537		4 31 52.14	1	2.101	— 38 5		7.53	
427	Weisse (2) 713		4 33 35		3.585	+ 22 25 21.4	1	7.38	
428	Lacaille 1540		4 33 37		2.467	— 25 57 48.2	1	7.38	
429	Weisse (2) 719		4 33 55		3.584	+ 22 22 22.9	1	7.36	
430	Weisse (2) 720		4 33 56.17	1	. .	22 29		7.36	
431	Rumker 1250	6.0	4 34 24.18	1	3.594	22 44		7.32	
432	τ Tauri		4 34 26.64	2	3.593	+ 22 42		7.32	
433	54 Eridani		4 34 47		2.631	— 19 55 20.6	2	7.28	
434	Anonymous	8.9	4 35 16.94	1	2.467	— 25 54		7.25	
435	Weisse 754		4 35 24		3.132	+ 2 44 23.2	1	7.24	
436	Lacaille 1549	7.8	4 35 30.87	1	2.397	— 28 25		7.23	
437	Lacaille 1553	7.0	4 35 46.32	3	2.060	39 3		7.21	
438	Lacaille 1557	7.0	4 36 40.72	1	2.030	39 50		7.13	
439	β Cœli	5.5	4 37 27.67	1	2.115	37 24		7.06	
440	Lacaille 1564	5.3	4 38 7.84	1	2.319	31 0		7.01	
441	μ Eridani		4 32 0.22	4	2.996	3 29 41.8	1	6.94	
442	B. A. C. 1471	7.5	4 39 1.57	2	2.410	27 49 8.1	1	6.94	
443	Lacaille 1570		4 39 18		2.399	28 11 26.7	1	6.92	
444	O. Arg. S. 3360	7.0	4 40 31.07	1	2.378	— 28 54		6.82	
445	Anonymous	9.0	4 41 4.90	2	3.311	+ 10 45		6.78	
446	α Camelopardi		4 41 8.35	1	5.915	+ 66 7		6.76	
447	B. A. C. 1482		4 41 15		2.394	— 28 19 27.0	2	6.76	
448	Anonymous	8.8	4 41 18.67	4	3.311	+ 10 44		6.75	
449	(° 128) W.	8.9	4 41 21.18	3	3.310	10 43		6.75	
450	Anonymous	8.6	4 41 23.56	2	+ 3.311	+ 10 44		+ 6.75	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
451	Anonymous	9.4	4 41 30.74	1	+ 3.311	+ 10 44		+ 6.74	
452	Anonymous		4 41 33.58	1	3.311	+ 10 44		6.74	
453	Lacaille 1595	7.0	4 41 45.92	1	2.155	− 36 2		6.72	
454	O. Arg. S. 3389	7.8	4 41 52.64	4	2.353	− 29 38 32.1	1	6.71	
455	Weisse 926		4 44 0.29	1	3.314	+ 10 50 38.4	1	6.53	
456	Lacaille 1611	6.5	4 44 24.76	1	2.176	− 35 19		6.49	
457	Lacaille 1610	6.7	4 44 25.16	2	2.201	− 34 32		6.49	
458	O. Arg. N. 5260		4 45 2.20	1	4.657	+ 51 23		6.45	
459	Lacaille 1615		4 45 46.50	2	2.467	− 25 32		6.38	
460	Weisse 986	8.0	4 46 10.29	1	3.248	+ 8 20		6.35	
461	Anonymous	8.0	4 47 37.41	1	2.311	− 30 55		6.23	
462	Weisse (2) 1047	8.6	4 47 48.77	3	3.737	+ 27 37 37.9	1	6.21	
463	Weisse 1028	7.5	4 47 52.24	2	3.259	8 23 11.6	1	6.21	
464	ι Aurigæ		4 48 31.79	5	3.897	+ 33 57 28.8	1	6.16	
465	Lacaille 1642	6.5	4 48 47.94	1	2.065	− 38 21		6.13	
466	O. Arg. S. 3488	8.9	4 49 17.33	1	2.425	26 56		6.09	
467	O. Arg. S. 3492	8.9	4 49 30.03	1	2.454	25 53		6.07	
468	O. Arg. S. 3494	7.8	4 49 33.12	1	2.363	29 6		6.07	
469	Lacaille 1652	6.0	4 49 35.89	1	2.063	38 22		6.07	
470	O. Arg. S. 3513	8.5	4 50 38.14	1	2.396	27 55		5.98	
471	Anonymous	9.0	4 50 59.30	1	2.002	39 57		5.95	
472	Lacaille 1659	7.7	4 51 4.56	1	2.002	39 57		5.94	
473	Anonymous	9.5	4 51 5.19	1	2.455	− 25 48		5.94	
474	Weisse (2) 1138		4 51 24.71	1	3.598	+ 22 23		5.91	
475	β Camelopardi, S. P.		4 51 52		5.258	+ 60 14 50.5	1	5.87	
476	Lacaille 1666		4 53 3.24	1	2.172	− 35 6		5.78	
477	Anonymous	8.8	4 54 14.66	1	3.210	+ 6 0		5.68	
478	Lacaille 1675	8.0	4 54 25.15	1	2.257	− 32 26 12.2	1	5.66	
479	Anonymous	9.0	4 54 45.93	1	3.203	+ 5 50		5.63	
480	Lacaille 1678	7.0	4 54 47.37	1	2.102	− 37 4		5.63	
481	O. Arg. S. 3576		4 54 52.48	2	2.338	− 29 46		5.63	
482	(* 129) W.	8.4	4 55 10.15	3	3.205	+ 5 56		5.60	
483	Weisse (2) 1257		4 56 15		3.820	30 13 6.2	1	5.51	
484	Weisse (2) 1258		4 56 17		3.820	30 11 37.6	1	5.51	
485	Weisse (2) 1261		4 56 30.50	2	3.742	27 30 45.2	1	5.49	
486	Weisse (2) 1266		4 56 36.24	1	3.577	21 25		5.48	
487	11 Orionis		4 57 8.53	9	3.423	+ 15 14		5.43	
488	Lacaille 1704		4 58 30.07	1	2.483	− 24 34		5.32	
489	ε Leporis		4 59 57.51	3	2.536	22 33		5.19	
490	O. Arg. S. 3662		5 0 55		2.423	26 39 54.4	1	5.11	
491	O. Arg. S. 3710		5 3 31.77	1	2.449	− 25 40		4.89	
492	Anonymous	9.2	5 3 42.98	1	3.168	+ 4 14		4.88	
493	Weisse (2) 49	8.8	5 4 17.56	1	3.829	30 15		4.82	
494	Weisse 56	9.0	5 4 52.26	1	3.166	4 9		4.78	
495	Weisse 55	7.8	5 4 52.54	2	3.168	4 14 49.0	1	4.78	
496	Weisse (2) 111	7.6	5 5 55.82	1	3.830	30 14 35.1	1	4.78	
497	(* 130) W.		5 7 0.07	2	3.122	2 11		4.60	
498	α Aurigæ		5 7 5.15	7	4.413	+ 45 51 47.4	4	4.59	
499	Weisse 136	5.0	5 7 18.31	1	2.882	− 8 18		4.57	
500	Weisse 145	8.6	5 7 50.20	1	3.127	+ 2 24		4.53	
501	Weisse 153	9.0	5 8 14.21	1	3.127	+ 2 26		4.49	
502	Anonymous		5 8 17.24	3	2.881	− 8 21		4.48	
503	β Orionis		5 8 17.46	30	2.881	− 8 21 13.9	1	4.48	
504	Weisse 156	9.0	5 8 18.45	1	3.128	+ 2 27		4.48	
505	Lacaille 1774	8.3	5 10 18.54	1	2.320	− 29 55		4.32	
506	Lacaille 1780		5 10 38		2.095	36 48 2.9	2	4.28	
507	B. A. C. 1641		5 11 8		2.154	− 35 4 24.7	1	4.24	
508	(* 131) W.	9.1	5 12 43.25	2	3.095	+ 0 59 2.7	1	4.11	
509	o Columbæ		5 12 48		2.155	− 35 1 25.8	1	4.10	
510	Anonymous		5 12 50.70	1	2.390	27 31		4.10	
511	Anonymous	8.3	5 12 56.97	1	2.394	27 23		4.09	
512	Anonymous	8.3	5 12 57.81	1	2.394	27 23		4.09	
513	Anonymous	9.0	5 14 24.24	1	2.394	− 27 22		3.96	
514	β Tauri		5 18 4.50	22	3.786	+ 28 29 43.4	4	3.65	
515	Weisse (2) 478	8.3	5 18 6.16	2	+ 3.577	+ 21 0 50.1	2	+ 3.65	

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			h. m. s.		s.	° ′ ″		″	
516	O. Arg. S. 3917	9.0	5 18 16.02	1	+ 2.690	— 16 11		3.63	
517	O. Arg. S. 3920	8.9	5 18 24.23	1	2.691	— 16 10		3.62	
518	*o* Tauri		5 19 49.77	1	3.599	+ 21 49		3.50	
519	B. A. C. 1708		5 21 2		2.792	— 12 0 42.9	3	3.39	
520	Anonymous		5 21 4.71	1	3.063	0 24		3.39	
521	Lacaille 1840		5 21 10		2.238	32 19 24.7	1	3.38	Differs 56″.0 from Lacaille.
522	Lacaille 1844	7.0	5 21 9.75	1	2.229	32 37		3.38	Differs 4.0s. from Lacaille.
523	B. A. C. 1706		5 21 21.32	1	7.977	+ 74 57 5.8	1	3.37	
524	B. A. C. 1713	7.8	5 22 11.28	1	2.409	— 26 42		3.29	
525	Anonymous	8.2	5 22 50.29	1	2.319	29 42		3.24	
526	Anonymous	9.0	5 23 19.07	1	2.409	— 26 40		3.20	
527	O. Arg. N. 5930	7.2	5 24 2.65	1	6.754	+ 70 16		3.13	
528	O. Arg. S. 4003	6.2	5 24 7.26	3	2.303	— 30 13		3.13	
529	119 Tauri	6.5	5 24 35.56	3	3.514	+ 18 30		3.09	
530	*δ* Orionis		5 25 21.94	17	3.063	— 0 23 49.6:	1	3.02	
531	Weisse 603		5 25 21.99	1	3.063	— 0 23		3.02	
532	120 Tauri		5 25 54.46	1	3.513	+ 18 27		2.97	
533	Lalande 10426		5 25 58.90	1	3.070	— 0 4		2.96	
534	*α* Leporis		5 26 59.85	6	2.644	— 17 55 1.9	2	2.88	
535	Rumker 1473	9.0	5 27 39.18	2	3.583	+ 21 6 58.6	1	2.82	
536	Anonymous	9.3	5 27 41.44	1	3.581	+ 21 2		2.82	
537	Anonymous	9.0	5 27 55 28	1	2.645	— 17 52 35.1	1	2.80	
538	Σ Cat. Gen. 599	9.1	5 28 36.92	3	3.583	+ 21 6 3.0	1	2.74	
539	θ^2 Orionis		5 29 2		2.944	— 5 30 11.2	1	2.70	
540	*ε* Orionis		5 29 37.07	22	3.042	— 1 17 13.8	2	2.65	
541	*ζ* Tauri		5 29 52.60	3	3.583	+ 21 4		2.63	
542	Anonymous	9.0	5 29 55.90	1	3.041	— 1 21		2.63	
543	O. Arg. N. 6031	8.2	5 30 20.57	1	6.491	+ 68 48 0.8	1	2.59	
544	Lacaille 1906	7.0	5 30 58.68	1	2.286	— 30 39		2.53	
545	B. A. C. 1775		5 31 5		2.345	— 28 47 27.4	1	2.52	
546	O. Arg. N. 6052		5 31 27.79	1	6.493	+ 68 48		2.49	
547	O. Arg. S. 4142	9.0	5 32 31.76	1	2.268	— 31 11		2.40	
548	Lacaille 1916	6.8	5 32 36.06	2	2.270	31 8		2.39	
549	B. A. C. 1787		5 32 40		2.343	— 28 46 10.2	1	2.39	
550	O. Arg. N. 6082	8.6	5 32 51.21	1	6.760	+ 70 12		2.37	
551	Lacaille 1924		5 33 8.33	1	2.150	— 34 46		2.35	
552	*α* Columbæ		5 34 56.53	4	2.171	34 8 39.6	1	2.19	
553	Lacaille 1945	6.5	5 35 51.76	2	2.311	29 47 20.7	1	2.11	
554	Anonymous	8.5	5 36 4.53	1	2.415	— 26 18		2.09	
555	O. Arg. N. 6159		5 37 6		6.989	+ 71 14 29.1	1	2.08	
556	Lacaille 1964	7.0	5 37 35.75	1	2.150	— 34 43		1.96	
557	Lacaille 1967		5 38 10.78	1	2.174	34 0		1.91	
558	O. Arg. S. 4264	7.0	5 39 3.49	1	2.374	27 36		1.83	
559	Anonymous	8.5	5 39 6.71	1	2.282	30 40		1.82	
560	Lacaille 1977	7.5	5 40 20.74	1	2.249	— 31 42		1.72	
561	Rumker 1576	9.2	5 41 25.94	3	3.653	+ 23 33		1.63	
562	Anonymous	8.5	5 41 47.73	1	3.656	+ 23 40		1.59	
563	Lacaille 1987		5 41 51		2.336	— 28 56 8.0	1	1.59	
564	Anonymous	9.2	5 41 59.31	1	3.713	+ 26 43		1.57	
565	Lacaille 1990		5 42 1		2.342	— 28 41 12.7	1	1.57	
566	B. A. C. 1851		5 42 55		3.303	+ 9 49 44.7	1	1.49	
567	(* 94) W.	9.0	5 44 19.05	1	3.715	+ 26 43		1.37	
568	Lacaille 2015	7.0	5 45 21.92	1	2.210	— 32 52		1.28	
569	B. A. C. 1867	7.0	5 45 35.47	1	3.565	+ 20 16		1.26	
570	*χ* Orionis		5 46 41.22	4	3.565	20 15		1.16	
571	*α* Orionis		5 48 8.07	36	3.245	+ 7 22 50.5	2	1.04	
572	Weisse 1200		5 48 11		2.976	— 4 5 28.8	1	1.03	
573	*λ* Columbæ	7.0	5 48 23.87	1	2.177	33 50		1.03	
574	B. A. C. 1894	8.0	5 49 11.63	1	2.327	— 29 10		0.95	
575	Anonymous	9.0	5 49 12.31	1	3.246	+ 7 26		0.95	
576	Anonymous	9.5	5 49 32.71	1	2.334	— 28 55		0.92	
577	O. Arg. S. 4453	7.9	5 50 31.13	2	2.332	28 58		0.83	
578	Anonymous	9.0	5 50 31.17	1	2.325	29 13		0.83	
579	Anonymous	7.5	5 50 37.05	1	2.302	— 29 57		0.82	
580	Anonymous	9.0	5 50 47.07	1	+ 3.246	+ 7 26		+ 0.81	

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581	O. Arg. N. 6362	7.8	5 50 49.34	2	+ 7.335	+ 72 36 5.9	1	+ 0.80	
582	Lacaille 2065		5 51 6.21	1	2.252	— 31 32		0.78	
583	σ Columbæ		5 51 27.50	1	2.256	31 24		0.75	
584	O. Arg. S. 4474	6.0	5 51 54.97	1	2.338	— 28 46		0.71	
585	O. Arg. N. 6390	9.0	5 52 38.04	1	7.260	+ 72 18		0.64	
586	O. Arg. S. 4499	8.0	5 53 11.91	2	2.328	— 29 7		0.59	
587	Anonymous		5 54 23		3.736	+ 26 25 37.9	2	0.49	
588	Lacaille 2092		5 54 27.42	1	2.176	— 33 49		0.48	
589	O. Arg. S. 4527	9.0	5 55 0.46	1	2.324	— 29 13		0.44	
590	Anonymous		5 55 18		3.738	+ 26 29 51.3	1	0.41	
591	O. Arg. S. 4534	7.0	5 55 21.11	1	2.365	— 27 53		0.41	
592	Weisse (2) 1795		5 55 28		3.739	+ 26 31 40.8	2	0.39	
593	χ^2 Orionis		5 55 47		3.550	+ 19 41 25.6	1	0.37	
594	Lacaille 2096	7.0	5 55 56.29	1	2.437	— 25 25 16.9	1	0.36	
595	Lacaille 2108	6.0	5 56 33.53	1	2.173	— 33 55		0.31	
596	Rumker 1700		5 58 18		3.740	+ 26 32 2.8	1	0.15	
597	(* 116) W.		5 59 1.69	1	7.610	+ 73 35		0.08	
598	Lacaille 2124	5.5	5 59 30.32	1	2.231	— 32 10		0.04	
599	Anonymous		5 59 32.16	1	2.343	28 36		0.04	
600	Anonymous		5 59 34.37	1	2.342	28 37		0.04	
601	O. Arg. S. 4613		5 59 36.41	1	2.359	— 28 3		+ 0.03	
602	Anonymous		6 0 1.60	3	3.424	+ 14 46		0.00	
603	ν Orionis		6 0 9.01	11	3.425	14 47		— 0.01	
604	Weisse (2) 1980	8.8	6 0 24.04	1	3.724	+ 25 59		0.03	
605	Lacaille 2130	5.3	6 1 5.22	1	2.308	— 29 44		0.10	
606	Anonymous	9.2	6 2 45.97	1	3.882	+ 31 12 52.0	1	0.24	
607	Lalande 11684	8.5	6 2 48.76	1	3.725	+ 26 2		0.25	
608	Lacaille 2151		6 2 59		2.090	— 36 17 30.5	1	0.26	
609	Weisse (2) 13	8.0	6 3 17.74	1	3.882	+ 31 11 50.2	1	0.29	
610	Lalande 11714	8.2	6 3 40.56	2	3.725	26 1		0.32	
611	Anonymous	9.0	6 3 54.81	1	3.890	+ 31 27		0.34	
612	Anonymous	9.0	6 3 59.93	1	3.890	31 27		0.35	
613	B. A. C. 1980		6 4 31.29	1	6.621	+ 69 21 38.5	1	0.39	
614	Lacaille 2159		6 4 36		2.400	— 26 40 44.0	1	0.40	
615	Lacaille 2163		6 4 34.92	1	2.268	31 1		0.40	
616	Weisse 55		6 4 40.59	1	2.856	— 9 24		0.40	
617	Anonymous		6 5 2.47	1	3.627	+ 22 32		0.42	
618	Weisse (2) 79	8.8	6 5 4.28	2	3.890	+ 31 27		0.42	
619	B. A. C. 1995		6 5 26		2.387	— 27 7 37.0	1	0.47	
620	Lacaille 2178	6.5	6 5 52.99	1	2.144	34 47		0.51	
621	B. A. C. 1997	6.8	6 6 0.71	1	2.407	26 27		0.53	
622	Anonymous	9.0	6 6 34.48	1	2.400	— 26 42 12.5	1	0.57	
623	η Geminorum		6 7 1.93	4	3.627	+ 22 32 30.1	1	0.61	
624	71 Orionis		6 7 12.07	1	3.537	+ 19 12		0.63	
625	Lacaille 2189		6 7 53.63	1	2.349	— 28 25		0.69	
626	Lacaille 2190	7.2	6 8 22.99	1	2.482	— 23 49		0.73	
627	O. Arg. N. 6682	7.8	6 9 25.69	2	7.579	+ 73 29 29.8	1	0.83	
628	Lacaille 2198		6 9 30		2.314	— 29 34 0.2	1	0.83	
629	Lacaille 2208		6 11 52		2.477	— 24 1 39.9	1	1.04	
630	Weisse (2) 328	7.5	6 13 22.70	1	3.906	+ 32 0 10.3	1	1.17	
631	μ Geminorum		6 15 5.77	14	3.627	22 34 40.9	5	1.32	
632	Weisse (2) 421		6 16 43		4.381	44 27 44.9	1	1.47	
633	Weisse (2) 533	9.0	6 20 1.89	1	3.467	+ 16 32		1.75	
634	Dorpat 919, (1st *)	6.9	6 22 30.82	3	2.910	— 6 57		1.97	
635	Dorpat 919, (2d *)	7.2	6 22 31.37	3	2.910	6 57		1.97	
636	Lacaille 2288		6 22 58		2.392	27 3 47.6	2	2.00	
637	Anonymous		6 25 36.70	1	2.307	29 56		2.23	
638	B. A. C. 2127		6 25 39		2.374	27 40 49.8	1	2.24	
639	O. Arg. S. 5251		6 26 53.34	1	2.329	29 13		2.34	
640	Anonymous	7.5	6 27 2.12	1	2.271	31 5		2.36	
641	Lacaille 2323		6 27 36		2.386	— 27 18 44.4	1	2.41	
642	Lalande 12614		6 28 21.47	2	3.466	+ 16 33		2.47	
643	O. Arg. S. 5289	7.0	6 28 25.41	2	2.418	— 26 14		2.48	
644	Anonymous	7.3	6 29 54.24	2	2.308	— 29 58		2.61	
645	γ Geminorum		6 30 12.11	25	+ 3.465	+ 16 30 28.4	2	— 2.63	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
646	Anonymous		6 30 51.43	1	+ 3.465	+ 16 31		— 2.60	
647	Lacaille 2355	7.5	6 31 4.41	2	2.346	— 28 43		2.71	
648	Weisse (2) 935	7.8	6 32 10.44	5	3.657	+ 23 47		2.81	
649	Anonymous	8.6	6 32 31.99	4	3.656	+ 23 49		2.83	
650	O. Arg. S. 5410		6 32 50.06	1	2.378	— 27 41		2.86	
651	Lacaille 2372	7.0	6 32 52.82	1	2.356	28 24		2.87	
652	Weisse 990		6 33 22		2.741	14 1 50.0	1	2.91	
653	O. Arg. S. 5450	6.7	6 34 11.80	1	2.495	23 35		2.98	
654	Anonymous		6 34 19.66	1	2.360	28 18		2.99	
655	O. Arg. S. 5463	8.5	6 34 31.50	1	2.494	— 23 36		3.01	
656	Anonymous	9.0	6 36 17.37	1	3.655	+ 23 49		3.17	
657	Anonymous	9.0	6 37 45.72	1	3.654	23 49		3.29	
658	ξ Geminorum		6 37 59.67	3	3.377	13 2		3.31	
659	51 Cephei		6 38 43.62	16	30.412	87 14 22.9	1	3.37	
660	51 Cephei, S. P.		6 38 43.65	23	30.412	87 14		3.37	
661	Weisse (2) 1163		6 38 45.43	1	3.654	23 49		3.38	
662	Weisse (2) 1172	7.9	6 38 56.23	3	3.654	23 49		3.39	
663	Anonymous	8.6	6 39 9.66	1	3.378	+ 13 4		3.41	
664	α Canis Majoris		6 39 25.10	18	2.681	— 16 32 17.7	21	3.43	
665	Anonymous		6 41 0		3.647	+ 23 35 39.5	1	3.57	
666	B. A. C. 2210		6 41 3.75	1	8.833	+ 77 8		3.57	
667	Lacaille 2443	6.7	6 41 13.47	1	2.331	— 29 24		3.58	
668	O. Arg. N. 7251	8.6	6 42 21.88	2	9.167	+ 77 50		3.68	
669	O. Arg. S. 5732	8.0	6 43 48.09	1	2.326	— 29 36		3.81	
670	59 Aurigæ		6 44 7		4.135	+ 39 1 15.1	1	3.84	
671	Lacaille 2464		6 44 19.87	1	2.360	— 28 29		3.84	
672	Lacaille 2480		6 45 27		2.197	33 44 11.9	1	3.95	
673	Lacaille 2479	6.5	6 45 28.52	1	2.267	31 33		3.95	
674	Anonymous	8.0	6 45 31.60	1	2.267	31 33		3.96	
675	Anonymous	9.0	6 45 42.25	1	2.305	30 21		3.97	
676	Anonymous	8.6	6 45 51.96	2	2.358	28 34		3.98	
677	O. Arg. S. 5790	8.0	6 45 58.79	1	2.401	27 7		3.99	
678	Anonymous	9.5	6 45 59.30	1	2.359	28 32		3.99	
679	Anonymous	9.5	6 45 59.49	1	2.359	28 32		3.99	
680	Anonymous	8.2	6 47 9.48	2	2.309	30 15		4.09	
681	Anonymous	9.0	6 47 10.72	1	2.362	— 28 29		4.09	
682	16 Lyncis		6 48 10		4.391	+ 45 15 35.4	1	4.18	
683	B. A. C. 2266		6 48 23.52	3	2.366	— 28 22		4.20	
684	O. Arg. S. 5864		6 48 27		2.488	24 4 13.3	1	4.21	
685	Lacaille 2496		6 48 36		2.480	24 22 40.1:	1	4.22	Differs 5′ from Lacaille.
686	o^1 Canis Minoris		6 48 46		2.489	24 1 24.2	1	4.24	
687	Anonymous	8.0	6 49 15.22	1	2.352	28 51		4.28	
688	O. Arg. S. 5887		6 49 21.72	1	2.395	27 24		4.28	
689	Lacaille 2519	6.5	6 49 25.46	2	2.268	31 37		4.29	
690	Lacaille 2524	7.0	6 50 8.80	1	2.353	28 51		4.35	
691	Lacaille 2528	6.1	6 50 59.86	6	2.270	31 36		4.42	
692	Lacaille 2544	7.5	6 53 10.66	1	2.501	23 41		4.61	
693	ε Canis Majoris		6 53 31.04	9	2.357	28 48		4.64	
694	Lacaille 2553	6.0	6 53 45.29	2	2.296	30 50		4.66	
695	Anonymous		6 53 46.11	1	2.433	26 10		4.66	
696	O. Arg. S. 6004		6 53 58.28	2	2.358	28 47		4.68	
697	Lacaille 2558		6 54 27		2.389	27 42 47.6	2	4.72	
698	O. Arg. S. 6022		6 54 37		2.375	28 13 15.1	1	4.73	
699	Lacaille 2562		6 54 39.70	1	2.337	29 30		4.74	
700	Anonymous	9.0	6 55 7.77	1	2.337	29 30		4.77	
701	Lacaille 2566		6 55 11.38	1	2.293	30 58		4.78	
702	Anonymous		6 55 15.74	1	2.294	30 55		4.79	
703	Lacaille 2571	8.0	6 55 34.28	1	2.374	— 28 17		4.81	
704	ζ Geminorum		6 56 23.91	4	3.563	+ 20 46		4.88	
705	22 Canis Majoris		6 56 32		2.389	— 27 45 2.1	1	4.89	
706	44 Geminorum	6.2	6 57 28.79	3	3.618	+ 22 49 48.2	3	4.98	
707	γ Canis Majoris		6 57 52.69	5	2.715	— 15 26		5.01	
708	Weisse (2) 1747	8.3	6 58 27.86	1	3.618	+ 22 53		5.06	
709	Anonymous		6 59 20.43	1	2.309	— 30 33		5.13	
710	(* 79) W.	7.7	7 1 55.92	8	+ 3.608	+ 22 34 13.0	2	— 5.35	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
711	Anonymous	8.0	7 2 10.65	1	+ 2.441	— 26 5		— 5.37	
712	Lacaille 2623	8.0	7 2 18.76	4	2.438	26 13		5.38	
713	O. Arg. S. 6262		7 2 44.35	2	2.442	26 5		5.42	
714	O. Arg. S. 6270		7 3 3		2.503	23 52 21.6	2	5.45	
715	δ Canis Majoris		7 3 6.38	5	2.439	26 11 16.8	1	5.45	
716	Lacaille 2634		7 3 25		2.504	— 23 50 15.6	2	5.48	
717	Σ Cat. Gen. 825, (1st *)	8.0	7 4 12.78	2	3.604	+ 22 29 38.8	2	5.54	
718	Σ Cat. Gen. 825, (2d *)	8.0	7 4 13.25	1	3.604	+ 22 29 31.2	2	5.54	
719	Lacaille 2641	7.0	7 4 21.62	1	2.473	— 25 0		5.56	
720	Anonymous		7 4 23.45	1	2.477	24 52		5.56	
721	Lacaille 2643		7 4 53		2.374	28 32 15.4	1	5.60	
722	Lacaille 2647	3.0	7 5 6.15	1	2.411	— 27 16		5.62	
723	O. Arg. N. 7623	7.2	7 5 27.45	1	9.369	+ 78 29		5.65	
724	Lacaille 2655	7.0	7 6 51.44	1	2.416	— 27 7		5.77	
725	Lacaille 2659	6.0	7 7 10.76	1	2.413	27 15		5.79	
726	Lacaille 2666		7 8 22.46	1	2.417	27 7		5.89	
727	O. Arg. S. 6442	9.0	7 8 38.81	1	2.419	— 27 4		5.92	
728	O. Arg. N. 7681	8.6	7 8 47.59	3	9.720	+ 79 7 35.9	1	5.93	
729	27 Canis Majoris		7 9 0		2.446	— 26 7 47.4	1	5.95	
730	B. A. C. 2383		7 9 0		3.721	+ 26 55 16.8	1	5.95	
731	O. Arg. S. 6490		7 10 8.28	1	2.390	— 28 8		6.04	
732	λ Geminorum		7 10 37.37	4	3.456	+ 16 46		6.08	
733	Anonymous		7 10 53		2.394	— 28 2 21.5	1	6.10	
734	Lacaille 2695	8.5	7 11 3.95	2	2.330	— 30 13		6.12	
735	Weisse (2) 327	7.8	7 11 37.63	2	3.593	+ 22 16		6.17	
736	Anonymous		7 11 53.36	1	2.353	— 29 29		6.19	
737	O. Arg. S. 6553		7 11 55.80	1	2.318	30 40		6.19	
738	O. Arg. S. 6554		7 11 55.82	1	2.318	— 30 40		6.19	
739	δ Geminorum		7 12 21.86	5	3.591	+ 22 13 11.0:	1	6.23	
740	O. Arg. N. 7755	7.5	7 12 45.56	1	9.575	+ 78 56 48.2	1	6.26	
741	B. A. C. 2420		7 13 33		2.323	— 30 33 45.9	2	6.33	
742	O. Arg. S. 6600	5.0	7 13 33.65	2	2.444	26 21		6.33	
743	Anonymous	9.0	7 13 44.22	1	2.311	— 30 57		6.34	
744	Weisse 387		7 14 4		3.367	+ 13 5 31.7	1	6.37	
745	O. Arg. S. 6623	8.0	7 14 22.25	1	2.445	— 26 20		6.39	
746	O. Arg. S. 6666	7.0	7 15 44.26	1	2.402	27 55		6.51	
747	Lacaille 2753	7.0	7 15 54.60	1	2.275	32 14		6.52	
748	O. Arg. S. 6678	7.3	7 16 16.53	4	2.401	27 57		6.55	
749	Anonymous		7 16 39		2.165	35 40 23.2	1	6.58	
750	Lacaille 2767		7 17 19		2.169	— 35 35 10.7	1	6.64	
751	Anonymous	8.0	7 17 18.82	1	3.457	+ 16 57		6.64	
752	Anonymous	9.0	7 17 27.19	1	3.457	+ 16 57		6.65	
753	Anonymous	7.4	7 17 38.11	2	2.315	— 30 59		6.67	
754	O. Arg. S. 6728		7 18 6		2.492	24 42 15.3	2	6.70	
755	Lacaille 2768	8.0	7 18 14.87	1	2.414	27 35		6.71	
756	Anonymous	6.5	7 18 33.83	3	2.314	31 2		6.74	
757	O. Arg. S. 6748	7.5	7 18 44.07	4	2.373	29 2		6.75	
758	η Canis Majoris	3.5	7 18 57.19	4	2.373	— 29 3		6.77	
759	63 Geminorum		7 20 1.42	1	3.573	+ 21 43		6.86	
760	Lacaille 2792		7 20 4		2.497	— 24 57 43.2	2	6.86	
761	Lacaille 2797	7.0	7 20 15.15	1	2.450	26 21		6.88	
762	O. Arg. S. 6810		7 20 47.60	1	2.445	26 32		6.92	
763	Weisse 625	8.8	7 21 14.15	1	2.823	11 14		6.96	
764	B. A. C. 2470	7.8	7 21 44.95	1	2.822	— 11 18		7.00	
765	6 Canis Minoris		7 22 33.62	2	3.344	+ 12 16		7.06	
766	Lacaille 2813	6.0	7 22 43.88	3	2.446	— 26 34		7.08	
767	B. A. C. 2320		7 23 2		74.992	+ 89 0 14.6	1	7.11	
768	Lacaille 2824		7 23 50		2.112	— 37 32 32.6	1	7.17	
769	O. Arg. S. 6907	7.7	7 24 10.29	1	2.340	— 30 23		7.20	
770	Lalande 14620	6.0	7 24 18.61	1	3.462	+ 17 22		7.21	
771	Anonymous	9.2	7 24 20.69	1	2.516	— 24 1		7.21	
772	Anonymous		7 24 39		2.494	24 52 36.3	1	7.24	
773	O. Arg. S. 6948	7.5	7 25 32 20	3	2.415	27 49 27.0	1	7.31	
774	O. Arg. S. 6949	7.6	7 25 32 47	2	2.416	— 27 50 56.2	1	7.31	
775	Weisse (2) 727	8.0	7 25 40 82	1	+ 3.435	+ 16 15		— 7.32	

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			h. m. s.		s.	° ′ ″		″	
776	68 Geminorum		7 26 11.34	2	+ 3.431	+ 16 6		— 7.36	
777	a^1 Geminorum		7 26 17.83	5	3.854	32 10		7.37	
778	a^2 Geminorum		7 26 18.09	10	3.854	+ 32 10		7.37	
779	O. Arg. S. 7026		7 27 51		2.411	— 28 2 50.0	1	7.50	
780	Lacaille 2852		7 28 30.92	2	2.264	33 7		7.55	
781	Lacaille 2859	6.0	7 29 19.15	1	2.263	33 11		7.62	
782	O. Arg. S. 7063	7.8	7 29 37.84	3	2.383	29 7		7.64	
783	Lacaille 2867		7 30 12		2.413	28 4 58.7	1	7.69	
784	Anonymous		7 30 26.49	1	2.368	29 41		7.71	
785	Anonymous		7 30 37.17	1	2.367	29 44		7.73	
786	O. Arg. S. 7100	8.7	7 30 46.17	2	2.388	29 4		7.74	
787	O. Arg. S. 7101	8.0	7 30 51.67	1	2.438	27 13		7.74	
788	O. Arg. S. 7107	7.5	7 30 59.27	1	2.390	28 57		7.75	
789	Lacaille 2870		7 31 9		2.496	25 2 39.1	1	7.77	
790	O. Arg. S. 7131	8.0	7 31 47.65	1	2.441	— 27 8		7.82	
791	Weisse (2) 915	8.5	7 32 0.81	1	3.542	+ 20 55 28.8	1	7.84	
792	α Canis Minoris		7 32 29.80	35	3.192	+ 5 33 28.2	3	7.87	
793	m Puppis		7 33 5		2.497	— 25 4 13.2	1	7.92	Differs 8″ from B. A. C.
794	O. Arg. S. 7167	7.6	7 33 7.86	1	2.330	— 31 9		7.92	
795	B. A. C. 2526	6.9	7 33 12.66	3	3.191	+ 5 32		7.93	
796	Anonymous	9.4	7 33 57.91	1	3.192	5 34		7.99	
797	Anonymous		7 34 34.99	1	3.547	21 12		8.04	
798	Weisse (2) 1022	9.0	7 35 31.24	2	3.548	21 15 40.0	1	8.12	
799	B. A. C. 2544		7 35 38		3.583	22 42 13.6	1	8.13	
800	β Geminorum		7 37 21.51	30	3.729	+ 28 20 16.4	2	8.26	
801	Lacaille 2923		7 37 39		2.489	— 26 5 12.8	1	8.29	
802	Lacaille 2929		7 38 15		2.500	25 11 42.5	1	8.34	
803	Lalande 15079	7.7	7 38 27.20	4	2.836	11 0		8.35	
804	Weisse 1181	7.0	7 39 29.90	1	2.761	14 22		8.44	
805	Weisse 1182	7.0	7 39 30.38	2	2.761	— 14 22		8.44	
806	Weisse (2) 1143	7.9	7 40 16.03	5	3.546	+ 21 21		8.50	
807	Anonymous	8.0	7 41 12.56	2	2.818	— 11 53		8.55	
808	Weisse 1232	8.2	7 41 51.49	2	2.818	11 53		8.62	
809	Weisse 1238	8.1	7 42 24.41	2	2.819	11 50		8.66	
810	o Puppis		7 42 42		2.494	25 36 57.9	1	8.69	
811	Anonymous		7 43 1		2.499	25 26 3.8	1	8.71	
812	O. Arg. S. 7470	7.6	7 43 29.05	1	2.365	30 26		8.75	
813	Anonymous		7 44 1		2.500	— 25 26 53.4	1	8.79	
814	25 Lyncis	6.5	7 45 1.45	3	4.391	+ 47 43 10.3	1	8.87	
815	ϕ Geminorum		7 45 32.33	2	3.685	+ 27 6 1.9	1	8.91	
816	Lacaille 3012		7 45 33		2.534	— 24 11 52.5	1	8.91	
817	Weisse (2) 1305	7.4	7 46 33.94	5	3.542	+ 21 27		8.99	
818	Anonymous		7 47 41.27	1	2.489	— 26 3		9.08	
819	Anonymous	8.0	7 48 34.77	1	2.490	— 26 3		9.14	
820	O. Arg. N. 8445	9.0	7 49 6.72	1	4.353	+ 47 9		9.19	
821	Anonymous	8.0	7 49 16.09	1	3.325	12 2		9.20	
822	1 Cancri		7 49 36.54	1	3.415	16 8		9.23	
823	(* 133) W.		7 49 45.40	5	3.325	12 1 55.5	1	9.24	
824	Weisse 1459	9.0	7 49 59.09	3	3.322	11 54 7.6	2	9.26	
825	O. Arg. N. 8459	8.0	7 50 19.60	1	4.341	46 58 12.7	1	9.28	
826	Anonymous	8.5	7 50 58.90	1	3.324	+ 12 2		9.34	
827	B. A. C. 2651		7 51 14		2.391	— 29 56 21.0	1	9.35	
828	Weisse 1504	8.0	7 51 46.08	1	2.933	6 42		9.40	
829	B. A. C. 2655		7 52 32		2.392	29 59 10.4	2	9.45	Differs 8″ from B. A. C.
830	O. Arg. S. 7769	7.6	7 53 33.76	2	2.458	— 27 33		9.53	
831	5 Cancri		7 54 5.62	1	3.427	+ 16 49		9.58	
832	O. Arg. N. 8531		7 54 34		4.960	58 8 17.9	1	9.61	
833	6 Cancri		7 55 31.88	3	3.698	28 9		9.69	
834	Weisse (2) 1520		7 55 52.96	1	3.698	28 9		9.71	
835	Weisse 1624	8.4	7 56 10.33	3	3.315	11 42 38.1	1	9.74	
836	8 Cancri		7 57 49.94	1	3.351	+ 13 29		9.86	
837	Lacaille 3147		7 59 7		2.521	— 25 19 56.1	2	9.96	
838	Anonymous		7 59 15		2.964	— 5 19 8.6	1	9.97	
839	μ^2 Cancri		8 0 6.67	1	3.539	+ 21 58		10.04	
840	Weisse 1763	6.5	8 0 45.73	1	+ 3.376	+ 14 44		— 10.08	

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			h. m. s.		s.	° ′ ″		″	
841	12 Cancri		8 1 28		+ 3.360	+ 14 1 2.7	2	— 10.14	
842	ρ Argus		8 2 0.48	1	2.561	— 23 56		10.18	
843	Anonymous		8 3 2.32	1	2.320	— 33 12		10.25	
844	Lacaille 3165	8.0	8 3 52.94	1	2.412	29 56		10.32	
845	ζ Cancri, (1st *)	6.8	8 4 45.24	4	3.444	+ 18 2 11.8	1	10.39	
846	ζ Cancri, (2d *)	7.5	8 4 45.49	4	3.444	18 2 16.1	1	10.39	
847	Weisse (2) 83	8.1	8 5 48.76	2	3.502	20 40 15.8	2	10.46	
848	Carrington 1186		8 6 10		10.216	80 56 15.0	1	10.49	
849	Carrington 1187		8 6 14		10.170	+ 80 54 22.9	1	10.49	
850	Anonymous		8 6 44.03	2	2.467	— 28 34		10.53	
851	O. Arg. S. 8225		8 7 42.49	1	2.569	23 54		10.60	
852	Lacaille 3209	7.0	8 8 28.19	1	2.382	— 31 21		10.66	
853	Anonymous	9.0	8 9 20.62	1	3.491	+ 20 20		10.73	
854	O. Arg. S. 8280		8 9 47.68	1	2.406	— 30 28		10.76	
855	Anonymous	8.5	8 10 31.49	1	2.418	30 8		10.81	
856	O. Arg. S. 8291		8 10 33		2.551	24 50 13.6	2	10.81	
857	Lacaille 3229		8 10 45		2.428	— 29 47 37.8	1	10.83	
858	Weisse (2) 221	8.6	8 11 27.67	5	3.489	+ 20 22 46.0	1	10.88	
859	Lacaille 3241		8 12 1		2.528	— 25 53 59.4	2	10.92	
860	O. Arg. S. 8345		8 12 24		2.551	24 57 30.7	1	10.95	
861	Lacaille 3249		8 12 51		2.528	25 56 19.0	1	10.98	
862	Lacaille 3257		8 13 20		2.288	35 2 49.6	1	11.02	
863	Anonymous	9.0	8 13 34.58	1	2.290	35 0		11.04	
864	O. Arg. S. 8383		8 14 11		2.552	25 1 1.3	2	11.08	
865	Anonymous	7.5	8 14 16.08	2	2.512	26 41		11.09	
866	Anonymous		8 14 51.59	1	2.417	— 30 39		11.13	
867	d^1 Cancri	6.0	8 15 55.18	1	3.448	+ 18 45		11.21	
868	Weisse 381	9.0	8 15 59.07	1	3.320	12 36 3.5	1	11.21	
869	Weisse 389	9.1	8 16 12.33	2	3.308	+ 12 2 1.5	1	11.23	
870	Anonymous		8 17 14.11	1	2.454	— 29 13		11.30	
871	Lacaille 3290		8 17 33.10	1	2.404	31 12		11.32	
872	Lacaille 3293	8.0	8 18 7.78	1	2.501	27 24		11.37	
873	O. Arg. S. 8484	7.0	8 18 15.19	1	2.426	— 30 23		11.38	
874	ϕ^2 Cancri, (1st *)	7.0	8 18 55.16	5	3.641	+ 27 21 24.0	1	11.43	
875	ϕ^2 Cancri, (2d *)	7.0	8 18 55.38	5	3.641	+ 27 21 29.1	1	11.43	
876	Anonymous		8 19 8.89	1	2.503	— 27 23		11.44	
877	Anonymous	7.0	8 20 49.35	2	2.523	— 26 41		11.56	
878	29 Cancri	6.0	8 21 22.02	2	3.357	+ 14 38		11.60	
879	B. A. C. 2843	6.5	8 22 2.92	2	2.412	— 31 14		11.65	
880	Weisse (2) 490	9.0	8 22 8.93	4	3.397	+ 16 38 22.8	1	11.66	
881	Anonymous		8 23 7.78	1	2.491	— 28 11		11.73	
882	Anonymous	8.9	8 23 32.42	1	2.448	29 56		11.75	
883	Anonymous		8 23 41.07	1	2.492	28 11		11.77	
884	Lacaille 3341		8 23 47.01	1	2.491	28 15		11.77	
885	Anonymous	6.0	8 23 59.49	3	2.524	— 26 53		11.79	
886	Anonymous		8 24 12.55	1	3.462	+ 19 50		11.80	
887	η Cancri	5.9	8 25 11.29	8	3.483	+ 20 52 52.5	1	11.87	
888	O. Arg. S. 8654		8 25 57		2.565	— 25 14 40.8	2	11.93	
889	Anonymous	8.0	8 26 2.40	1	2.685	19 49		11.93	
890	O. Arg. S. 8660		8 26 9		2.567	25 10 16.2	2	11.94	
891	Anonymous	9.0	8 26 54.00	1	2.687	19 47		11.99	
892	Anonymous		8 27 43.13	1	2.603	— 23 41		12.05	
893	35 Cancri		8 27 50.82	1	3.462	+ 20 2 6.9	2	12.06	
894	B. A. C. 2886	8.0	8 28 16.16	4	3.465	20 13		12.09	
895	Dorpat 1245, (1st *)	7.0	8 28 56.36	1	3.204	7 4		12.14	
896	Dorpat 1245, (2d *)	8.5	8 28 56.65	1	3.204	+ 7 4		12.14	
897	Anonymous	5.5	8 29 0.07	1	2.538	— 26 39		12.14	
898	Anonymous	8.2	8 29 33.73	3	3.459	+ 20 2		12.18	
899	Anonymous		8 30 2		3.458	20 0 45.3	1	12.21	
900	e^1 Cancri		8 30 2.87	3	3.261	10 6		12.21	
901	Anonymous		8 30 4.43	1	3.468	20 29		12.21	
902	Weisse (2) 708		8 30 8.50	2	3.462	20 11 3.1	1	12.22	
903	Weisse (2) 713	9.0	8 30 12.75	4	3.457	19 58 9.4	1	12.22	
904	B. A. C. 2899		8 30 21		3.450	19 43 5.8	1	12.23	
905	Lalande 16960	8.2	8 30 36.57	1	+ 3.206	+ 7 12		— 12.25	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
906	Anonymous		8 31 8.81	1	+ 3.466	+ 20 26 35.3	3	− 12.29	
907	Anonymous		8 31 19.19	3	3.455	19 57 18.2	1	12.30	
908	Weisse (2) 756		8 31 35		3.460	20 10 47.3	1	12.32	
909	Anonymous	10.0	8 31 36.55	1	3.178	6 17		12.32	
910	Weisse (2) 762		8 31 37.93	4	3.459	20 8		12.32	
911	B. A. C. 2907		8 31 41.21	2	3.457	20 2 49.6	2	12.33	
912	Anonymous		8 31 42.08	2	3.458	20 7		12.33	
913	Anonymous		8 31 50.04	1	3.466	20 30		12.34	
914	Anonymous		8 31 54.54	2	3.465	20 28		12.34	
915	Anonymous		8 32 13.63	1	3.467	20 32 33.2	1	12.36	
916	38 Cancri		8 32 14.40	3	3.460	20 14		12.36	
917	B. A. C. 2914		8 32 23.05	1	3.455	19 59 49.0	3	12.37	23″ less than B. A. C.
918	Weisse (2) 790		8 32 28.86	1	3.453	20 1		12.38	
919	Weisse (2) 793		8 32 30.19	1	3.455	19 59 52.1	2	12.38	
920	Anonymous		8 32 31		3.468	20 37 23.9	1	12.38	
921	39 Cancri		8 32 37.58	4	3.464	20 27 54.1	2	12.39	
922	40 Cancri	7.0	8 32 42.73	3	3.463	20 25 42.6	2	12.39	
923	Anonymous		8 32 46.47	1	3.464	20 27 7.6	1	12.40	
924	Lalande 17053		8 32 48.54	1	3.187	6 15		12.40	
925	Anonymous		8 32 52		3.454	19 59 22.4	1	12.41	
926	Anonymous		8 32 52.76	3	3.457	20 9		12.41	
927	B. A. C. 2919		8 32 54.18	2	3.457	20 7 38.7	1	12.41	
928	Anonymous		8 32 58.27	1	3.457	20 9		12.42	
929	ε Cancri		8 32 59.42	1	3.454	20 0		12.42	
930	Anonymous		8 33 6.01	1	3.180	6 1 19.8	1	12.42	
931	42 Cancri		8 33 15.24	4	3.458	20 12		12.43	
932	B. A. C. 2925		8 33 28.65	4	3.454	+ 20 2 20.8	3	12.45	
933	Weisse 829		8 33 45.38	3	3.025	− 2 35		12.47	
934	Weisse 841		8 34 7.22	3	3.350	+ 14 52		12.49	
935	Anonymous		8 34 14.72	2	3.455	20 7		12.50	
936	B. A. C. 2931	7.0	8 34 21.88	3	3.459	20 20 5.9	2	12.51	
937	Anonymous		8 34 23.00	1	3.461	20 24		12.51	
938	Anonymous	8.0	8 34 24.30	1	3.465	20 38		12.51	
939	Anonymous	9.5	8 34 26.44	1	3.180	5 54		12.52	
940	Anonymous		8 34 39.78	1	3.452	19 59		12.53	
941	Anonymous		8 34 42		3.449	19 52 24.4	1	12.53	
942	Weisse 866	9.0	8 34 52.80	2	3.326	+ 13 40		12.54	
943	O. Arg. S. 8852	6.0	8 34 55.82	1	2.545	− 26 48		12.55	
944	O. Arg. S. 8856	9.0	8 35 5.97	1	2.543	− 26 55		12.56	
945	Anonymous		8 35 13.70	2	3.452	+ 20 0 23.4	2	12.57	
946	Anonymous		8 35 17.16	2	3.453	20 4		12.57	
947	Anonymous	9.2	8 36 6.80	1	3.464	20 40		12.63	
948	δ Cancri		8 37 17.81	1	3.422	+ 18 38		12.71	
949	Dorpat 1270, (1st *)		8 38 46.37	1	3.034	− 2 7		12.81	
950	Dorpat 1270, (2d *)		8 38 46.76	1	3.034	− 2 7		12.81	
951	Dorpat 1273, (1st *)	9.0	8 39 53.38	1	3.196	+ 6 53 36.7	1	12.88	
952	ε Hydræ		8 39 53.47	16	3.196	6 53 39.3	1	12.88	
953	35 Lyncis		8 43 14		4.057	+ 44 12 28.6	1	13.11	
954	Anonymous	7.2	8 43 44.68	2	2.298	− 37 28		13.14	
955	Lacaille 3546		8 44 7		2.492	30 27 2.1	1	13.16	
956	Anonymous	8.0	8 44 12.16	1	2.542	27 43		13.17	
957	O. Arg. S. 9040	8.5	8 44 17.84	1	2.621	24 6		13.18	
958	B. A. C. 3005	7.8	8 44 38		2.514	28 58 48.0	2	13.20	
959	Anonymous	7.8	8 45 16.92	1	2.359	35 23		13.24	
960	Anonymous		8 46 20.17	1	2.498	− 29 52		13.31	
961	Weisse 1222		8 48 10		3.153	+ 4 38 26.3	1	13.43	
962	Lacaille 3582	7.0	8 48 50.11	1	2.461	− 31 39 49.9	1	13.47	
963	Anonymous	8.8	8 48 53.06	1	2.376	35 6		13.47	
964	17 Hydræ, (1st *)	7.6	8 49 7.29	4	2.942	7 28 26.5	2	13.49	
965	17 Hydræ, (2d *)	7.6	8 49 7.33	4	2.942	7 28 33.2	2	13.49	
966	Anonymous		8 49 49.64	1	2.307	37 47		13.54	
967	Anonymous	9.0	8 49 57.57	1	2.465	− 31 36		13.55	
968	ι Ursæ Majoris		8 50 18		4.187	+ 48 33 1.4	3	13.57	
969	Anonymous		8 50 18.33	1	2.309	− 37 46		13.57	
970	α Cancri		8 51 22.54	2	+ 3.287	+ 12 21 34.3	2	− 13.64	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
971	O. Arg. S. 9178	7.8	8 51 23.67	1	+ 2.501	— 30 12		— 13.64	
972	Lacaille 3617	7.2	8 53 24.73	2	2.477	31 28		13.77	
973	Lacaille 3621	7.0	8 54 8.70	2	2.572	27 18		13.81	
974	B. A. C. 3082	6.2	8 55 33.11	4	2.599	26 9		13.90	
975	Anonymous	8.8	8 55 57.76	1	2.512	— 30 11		13.93	
976	Weisse (2) 1347		8 56 13		3.984	+ 43 34 2.5	1	13.94	
977	Anonymous		8 56 50.34	1	2.398	— 35 7		13.98	
978	B. A. C. 3096		8 57 29		2.626	— 24 59 28.6	2	14.03	
979	σ^8 Ursæ Majoris		8 58 54.83	1	5.385	+ 67 40		14.11	
980	O. Arg. S. 9310	7.7	8 58 56.79	3	2.597	— 26 34		14.11	
981	O. Arg. S. 9321	8.5	8 59 19.33	3	2.656	23 40		14.14	
982	Lacaille 3671		8 59 36		2.558	— 28 30 1.8	1	14.16	
983	κ Cancri		9 0 42.24	7	3.258	+ 11 11 23.3	2	14.22	
984	O. Arg. S. 9344		9 0 45.17	3	2.660	— 23 38		14.22	
985	Anonymous		9 1 34.04	1	9.602	+ 81 49		14.27	
986	Anonymous	8.8	9 1 49.41	1	2.663	— 23 33		14.29	
987	Anonymous	7.6	9 2 12.81	1	2.582	27 39		14.32	
988	B. A. C. 3121		9 2 22		2.629	25 20 5.4	1	14.33	
989	Lacaille 3690		9 2 59		2.631	25 18 51.1	1	14.37	
990	Anonymous		9 3 28		2.568	28 25 59.6	1	14.39	
991	O. Arg. S. 9418	7.0	9 4 2.66	1	2.551	29 17 26.9	1	14.43	
992	B. A. C. 3127		9 4 4		2.634	25 16 34.3	1	14.43	
993	ϵ Mali		9 4 28		2.540	— 29 50 8.5	1	14.46	
994	Carrington 1338	9.1	9 5 48.75	3	9.482	+ 81 49		14.54	
995	Anonymous	7.8	9 6 15.73	1	2.671	— 23 34		14.56	
996	Lacaille 3716		9 6 41.85	1	2.643	25 3		14.59	
997	Lacaille 3718	7.0	9 6 46.92	1	2.576	— 28 24 54.1	1	14.60	
998	π^8 Cancri		9 8 3.24	1	3.325	+ 15 29		14.67	
999	O. Arg. S. 9488		9 8 5.33	2	2.591	— 27 46		14.67	
1000	Weisse 153		9 8 42.25	1	3.162	+ 5 40		14.71	
1001	Lacaille 3741	7.0	9 9 30.75	1	2.642	— 25 25		14.76	
1002	Lacaille 3750	6.0	9 10 10.48	1	2.491	32 47 0.0	3	14.80	
1003	Anonymous	7.5	9 10 17.80	1	2.598	— 27 42		14.80	
1004	Weisse (2) 198	8.5	9 10 54.36	1	3.368	+ 18 16		14.84	
1005	O. Arg. S. 9539		9 11 15		2.566	— 29 24 31.1	1	14.86	
1006	83 Cancri		9 11 43.34	2	3.367	+ 18 15		14.89	
1007	B. A. C. 3174	5.3	9 11 51.42	2	2.350	— 38 52		14.90	
1008	Anonymous	8.5	9 12 9.50	1	2.586	— 28 31		14.91	
1009	Dorpat 1343, (1st *)	9.0	9 13 8.47	4	3.159	+ 5 37		14.97	
1010	Dorpat 1343, (2d *)	9.0	9 13 9.10	4	3.159	+ 5 37		14.97	
1011	Anonymous		9 14 20.02	1	2.629	— 26 35		15.04	
1012	Anonymous	7.0	9 14 49.19	1	2.591	28 34 33.6	1	15.07	
1013	λ Mali	4.2	9 15 44.27	1	2.655	— 25 25		15.12	
1014	B. A. C. 3194		9 16 2		3.495	+ 25 44 11.7	1	15.14	
1015	Anonymous	9.0	9 16 50.02	1	2.839	— 14 55		15.18	
1016	Lacaille 3802	8.5	9 17 13.11	2	2.570	29 57		15.20	
1017	Anonymous	9.0	9 17 15.75	1	2.840	14 55		15.21	
1018	Anonymous	6.5	9 17 29.83	1	2.464	34 55		15.22	
1019	O. Arg. S. 9661	8.0	9 17 39.12	1	2.571	29 56		15.23	
1020	Anonymous	8.0	9 17 41.39	1	2.600	28 30		15.23	
1021	Anonymous	8.0	9 17 52.09	1	2.600	28 29		15.24	
1022	Anonymous	8.3	9 18 11.43	1	2.841	— 14 55		15.26	
1023	1 Draconis	5.0	9 18 20.26	2	9.162	+ 81 53 49.9	1	15.27	
1024	Anonymous	9.0	9 20 1.51	1	2.950	— 8 3		15.36	
1025	Lalande 18604	7.4	9 20 49.26	2	3.290	+ 14 19		15.41	
1026	Anonymous	8.0	9 20 58.60	1	2.621	— 27 48		15.42	
1027	Anonymous		9 21 11.22	1	2.475	34 56		15.43	
1028	α Hydræ		9 21 11.97	13	2.950	— 8 6		15.43	
1029	ω Leonis		9 21 29.59	1	3.217	+ 9 37 17.5	1	15.44	
1030	Weisse 488		9 23 35		2.890	— 12 9 59.0	2	15.56	
1031	ϵ Antlia		9 23 52.84	1	2.474	35 23		15.58	
1032	Weisse 498		9 24 4		2.891	— 12 9 42.7	1	15.59	
1033	Weisse (2) 486		9 24 5		3.464	+ 24 59 4.6	1	15.59	
1034	θ Ursæ Majoris		9 24 9.07	1	4.159	+ 52 16 6.2	3	15.59	
1035	Lacaille 3874	7.5	9 24 13.85	1	+ 2.517	— 32 50		— 15.60	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1036	Lacaille 3864	8.0	9 24 15.84	1	+ 2.633	— 27 36		— 15.60	
1037	Anonymous	8.0	9 24 32.03	1	2.633	— 27 37		15.61	
1038	λ Leonis		9 24 59.35	2	3.224	+ 10 17		15.64	
1039	Anonymous		9 25 21.51	1	2.463	— 36 6		15.66	
1040	Lacaille 3889	6.0	9 26 7.57	2	2.487	35 8		15.70	
1041	Anonymous	6.7	9 26 9.90	1	2.465	36 8		15.70	
1042	Lacaille 3903	6.2	9 27 53.48	4	2.416	38 33 18.3	1	15.80	
1043	Lacaille 3905	7.0	9 28 2.58	1	2.428	38 3		15.80	
1044	33 Hydræ		9 28 5		2.995	5 20 6.0	1	15.81	Differs 11″ from B. A. C.
1045	O. Arg. S. 9888	8.0	9 29 39.09	1	2.768	20 25		15.89	
1046	O. Arg. S. 9903	7.0	9 30 19.51	1	2.771	— 20 18		15.93	
1047	10 Leonis		9 30 20.82	5	3.178	+ 7 25		15.93	
1048	Weisse (2) 639		9 30 37.59	1	3.326	+ 17 25		15.94	
1049	Lacaille 3923		9 30 44		2.709	— 24 7 56.0	1	15.95	
1050	Anonymous	8.0	9 30 47.61	1	2.495	35 26		15.95	
1051	O. Arg. S. 9914	9.0	9 31 1.16	1	2.713	— 23 55		15.96	
1052	Anonymous	8.0	9 31 29.89	1	3.638	+ 35 3		15.99	
1053	Lacaille 3946	5.8	9 32 3.29	2	2.688	— 25 30		16.02	
1054	Lacaille 3945		9 32 10		2.606	30 5 43.8	1	16.03	
1055	O. Arg. S. 9956	9.0	9 32 49.31	1	2.718	23 50		16.06	
1056	Anonymous	7.0	9 33 50.11	1	2.427	— 39 0		16.11	
1057	o Leonis		9 34 12.73	4	3.219	+ 10 28 58.4	1	16.13	
1058	Anonymous		9 34 21.25	1	2.509	— 35 22		16.14	
1059	Lacaille 3967		9 34 39		2.608	30 19 59.9	1	16.16	
1060	Lacaille 3975	6.0	9 35 50.85	2	2.565	32 48		16.22	
1061	Lacaille 3976		9 36 13		2.624	29 42 44.8	1	16.23	
1062	Anonymous	7.5	9 36 16.19	1	2.461	37 53		16.23	
1063	Anonymous	9.0	9 36 24.75	1	2.728	23 42		16.24	
1064	Lacaille 3984	7.0	9 37 17.18	1	2.569	— 32 48		16.29	
1065	ε Leonis		9 38 28.13	7	3.423	+ 24 22 17.7	2	16.35	
1066	Lacaille 3996		9 38 59		2.448	— 38 58 30.8	2	16.38	
1067	B. A. C. 3336		9 39 18.45	2	3.171	+ 7 18		16.39	
1068	Weisse (2) 819	9.0	9 39 24.40	1	3.295	16 10		16.40	
1069	Weisse (2) 832	8.2	9 40 1.60	4	3.294	+ 16 7 42.8	1	16.43	
1070	Anonymous	9.0	9 41 27.37	1	2.639	— 29 40		16.50	
1071	Lacaille 4016		9 41 32		2.463	38 43 19.6	1	16.50	
1072	O. Arg. S. 10130	7.8	9 42 49.09	1	2.642	— 29 43		16.57	
1073	Anonymous		9 43 44		3.678	+ 38 58 17.6	2	16.61	
1074	Weisse 929	8.0	9 43 46.85	5	3.269	14 43 32.2	1	16.61	
1075	μ Leonis		9 45 21.93	8	3.443	26 37 5.3	5	16.69	
1076	Anonymous	9.5	9 46 26.41	1	3.274	15 19		16.74	
1077	(* 114) W.		9 46 33.73	1	3.268	14 55 35.9	1	16.75	
1078	Rumker 2988	7.5	9 46 43.86	3	3.275	15 23		16.76	
1079	Anonymous		9 46 43.91	1	3.264	+ 14 57		16.76	
1080	Anonymous		9 47 56.59	1	2.508	— 37 46		16.82	
1081	Lacaille 4058		9 48 17		2.695	27 23 10.2	1	16.83	
1082	Anonymous		9 48 31.94	1	2.689	27 48		16.84	
1083	Anonymous	8.5	9 49 45.57	1	2.466	40 6		16.90	
1084	Anonymous		9 50 36		2.494	38 56 8.3	2	16.94	
1085	Anonymous	6.2	9 50 43.85	2	2.469	40 9		16.95	
1086	Lacaille 4076		9 51 5		2.711	26 51 31.7	1	16.96	
1087	Anonymous		9 52 33		2.501	38 57 20.7	2	17.03	
1088	Lacaille 4089		9 52 57		2.687	28 41 3.6	2	17.05	
1089	Lacaille 4095	5.9	9 53 17.59	2	2.576	— 35 16		17.07	
1090	π Leonis		9 53 20.59	9	3.179	+ 8 40 1.3	1	17.07	
1091	Anonymous	7.0	9 55 40.51	1	2.514	— 38 56		17.18	
1092	Lacaille 4107	6.2	9 55 46.89	2	2.517	38 50		17.18	
1093	Lacaille 4106, (1st *)		9 56 3		2.705	28 3 7.3	2	17.19	
1094	Lacaille 4106, (2d *)		9 56 3		2.705	28 2 47.8	2	17.19	
1095	Lacaille 4115		9 57 2		2.678	29 57 5.6	1	17.24	
1096	O. Arg. S. 10324	6.8	9 57 42.57	4	2.759	24 41		17.27	
1097	Anonymous		9 58 17		2.530	38 39 4.6	2	17.29	
1098	Lacaille 4126	5.0	9 58 21.02	1	2.775	— 23 40		17.30	
1099	Anonymous	9.0	9 58 29.98	1	3.231	+ 13 12		17.30	
1100	O. Arg. S. 10346		9 58 55.13	2	+ 2.720	— 27 33		— 17.32	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1101	Lacaille 4135	6.5	9 58 55.31	1	+ 2.693	— 29 21		17.32	
1102	Lacaille 4134		9 59 17.99	2	2.721	27 34		17.34	
1103	Anonymous		10 0 50.26	1	2.787	— 23 15		17.41	
1104	Weisse 1296	8.4	10 1 17.22	2	3.220	+ 12 38		17.43	
1105	Anonymous	7.8	10 1 23.77	3	2.773	— 24 19		17.43	
1106	α Leonis		10 1 26.83	24	3.220	+ 12 36 5.6	8	17.43	
1107	Anonymous		10 2 1.15	2	2.775	— 24 16		17.46	
1108	Anonymous	9.2	10 2 24.93	2	3.223	+ 12 55		17.47	
1109	16 Sextantis		10 2 28		3.150	6 48 25.5	1	17.48	
1110	B. A. C. 3466		10 3 8.23	1	3.645	41 18		17.50	
1111	Anonymous	8.8	10 3 12.98	2	3.222	+ 12 56		17.51	
1112	Lacaille 4165		10 3 49		2.663	— 32 12 37.6	1	17.53	
1113	Anonymous	8.2	10 4 14.27	2	2.600	— 36 5		17.55	
1114	Weisse (2) 53		10 4 20		3.457	+ 30 47 19.7	1	17.56	
1115	Weisse 38		10 4 22		3.149	+ 6 48 25.4	1	17.56	
1116	Lacaille 4183		10 6 10		2.734	— 27 57 54.1	1	17.63	
1117	Weisse 76		10 6 31		3.207	+ 11 58 52.6	1	17.65	
1118	Anonymous		10 6 38.58	1	2.586	— 37 26		17.65	
1119	Weisse (2) 120		10 6 44		3.469	+ 32 4 7.3	1	17.66	
1120	Weisse 94	8.4	10 7 2.35	2	3.210	12 20		17.67	
1121	Weisse 96	9.0	10 7 14.10	1	3.210	+ 12 22		17.68	
1122	B. A. C. 3489		10 7 23		2.759	— 26 23 15.5	2	17.68	
1123	Anonymous	9.2	10 7 22.52	1	2.543	39 59		17.68	
1124	Anonymous	8.5	10 7 34.23	1	2.712	— 29 44		17.69	
1125	22 Leonis Minoris		10 7 38.12	1	3.467	+ 32 6 44.2		17.70	
1126	Lacaille 4196	6.0	10 7 40.38	1	2.673	— 32 24		17.70	
1127	O. Arg. S. 10471	5.3	10 8 4.26	4	2.803	23 10		17.71	
1128	B. A. C. 3497		10 8 13		2.552	— 39 42 9.4	1	17.72	
1129	Weisse 116	7.5	10 8 13.70	1	3.209	+ 12 19		17.72	
1130	B. A. C. 3498		10 8 28		2.554	— 39 39 59.3	1	17.73	
1131	32 Ursæ Majoris		10 8 38		4.458	+ 65 45 22.2	1	17.74	
1132	Anonymous		10 8 38.15	1	2.573	— 38 37		17.74	
1133	Anonymous		10 8 49.88	1	2.706	30 28		17.74	
1134	Anonymous	8.8	10 10 3.17	1	2.579	38 37		17.79	
1135	Lacaille 4218	6.8	10 10 8.87	5	2.744	27 58 9.5	2	17.80	
1136	Lacaille 4227	7.0	10 11 4.30	1	2.668	— 33 28		17.83	
1137	γ^1 Leonis		10 12 48.15	24	3.297	+ 20 29 54.8	4	17.90	
1138	γ^2 Leonis		10 12 48.27	5	3.297	+ 20 30		17.90	
1139	Anonymous	9.0	10 12 53.82	1	3.034	— 3 35		17.90	
1140	Anonymous	8.0	10 13 33.04	3	3.038	— 3 38		17.93	
1141	Weisse (2) 257		10 14 9		3.659	+ 44 33 25.5	1	17.96	
1142	Weisse (2) 258		10 14 9		3.659	+ 44 33 33.5	1	17.96	
1143	Anonymous	8.2	10 14 26.65	2	2.820	— 22 58		17.97	
1144	Lacaille 4253		10 14 30		2.590	— 39 3 2.9	1	17.97	
1145	Weisse 234		10 15 2		3.191	+ 11 21 17.4	1	17.99	
1146	Anonymous	7.0	10 15 21.93	3	2.821	— 23 2		18.00	
1147	Anonymous	9.0	10 15 35.71	2	2.765	— 27 35		18.01	
1148	Weisse (2) 290	8.0	10 15 37.68	1	3.432	+ 31 30		18.01	
1149	43 Leonis		10 16 12.23	1	3.146	+ 7 12		18.03	
1150	Lalande 20114	7.6	10 16 21.77	1	2.823	— 23 3		18.04	
1151	Anonymous	8.9	10 16 51.28	2	2.771	27 21		18.06	
1152	B. A. C. 3554	6.8	10 17 15.46	3	2.744	29 30		18.07	
1153	Anonymous	7.0	10 17 15.73	1	2.755	— 29 13		18.07	
1154	Weisse 276		10 17 29		3.187	+ 11 14 42.6	1	18.08	
1155	Anonymous		10 17 42.71	1	3.093	+ 2 7		18.09	
1156	O. Arg. S. 10594	8.0	10 17 51.48	2	2.745	— 29 36		18.10	
1157	γ Antliæ		10 17 58		2.753	— 28 59 29.5	1	18.10	
1158	Rumker 3172		10 18 3		3.189	+ 11 31 44.5	1	18.10	
1159	29 Leonis Minoris		10 18 16		3.490	+ 36 5 10.6	1	18.11	
1160	Anonymous	7.6	10 18 28.80	1	2.969	— 10 9		18.12	
1161	26 Sextantis		10 20 0		3.069	— 0 19 39.5	1	18.18	
1162	35 Ursæ Majoris		10 20 38.35	1	4.350	+ 66 17		18.20	
1163	45 Leonis		10 20 47		3.175	+ 10 25 28.1	1	18.21	
1164	B. A. C. 3576		10 20 58		3.069	— 0 18 3.8	2	18.21	Differs 10″ from B. A. C.
1165	α Antliæ	4.3	10 21 12.35	6	+ 2.744	— 30 23		— 18.22	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession	Remarks.
			h. m. s.		s.	° ′ ″		″	
1166	Weisse (2) 412	7.5	10 21 42.35	6	+ 3.251	+ 17 48		— 18.24	
1167	Rumker 3209	8.2	10 22 43.39	3	3.248	+ 17 42		18.27	
1168	O. Arg. S. 10666		10 23 21		2.758	— 29 52 31.8	2	18.30	
1169	δ Antliæ		10 23 38		2.758	— 29 56 30.9	1	18.31	
1170	9 Draconis		10 23 59		5.318	+ 76 22 53.5	1	18.32	
1171	Weisse 425	8.0	10 25 17.73	1	3.168	10 6		18.37	
1172	Anonymous	9.8	10 25 34.75	2	3.241	+ 17 32		18.38	
1173	Lacaille 4324	5.2	10 25 45.55	1	2.793	— 27 35		18.38	
1174	ρ Leonis		10 25 57.90	12	3.166	+ 9 58 30.5	2	18.39	
1175	Anonymous	9.5	10 26 23.44	1	3.239	17 28		18.40	
1176	Rumker 3238	9.0	10 26 35.40	1	3.223	+ 15 56		18.41	
1177	Lacaille 4340		10 27 47		2.809	— 26 40 43.9	1	18.45	
1178	Lacaille 4349		10 28 49		2.765	30 40 19.0	1	18.49	
1179	Anonymous		10 29 8		2.778	29 39 59.6	2	18.50	
1180	Lacaille 4358	6.0	10 29 26.52	1	2.657	38 54		18.51	
1181	Anonymous	9.6	10 29 39.85	1	2.703	35 42		18.52	
1182	Anonymous	9.2	10 29 47.56	1	2.703	35 42		18.52	
1183	Anonymous	8.2	10 30 20.08	2	2.706	35 41		18.54	
1184	B. A. C. 3638		10 31 9		2.817	— 26 44 24.2	1	18.57	
1185	37 Leonis Minoris		10 31 24		3.395	+ 32 39 2.0	1	18.57	
1186	O. Arg. S. 10775	8.0	10 31 40.98	1	2.800	— 28 25		18.59	
1187	50 Leonis	6.8	10 31 56.03	1	3.223	+ 16 48		18.59	
1188	Lacaille 4382		10 33 0		2.839	— 25 10 24.6	2	18.63	
1189	Lacaille 4387		10 33 23.02	3	2.713	— 36 0 6.1	2	18.64	
1190	O. Arg. N. 11041		10 33 45.07	1	4.067	+ 63 43		18.65	
1191	33 Sextantis	6.0	10 34 47.42	1	3.063	— 1 3		18.69	
1192	Anonymous	8.0	10 34 55.03	1	2.722	35 50		18.69	
1193	Anonymous	7.8	10 36 2.20	1	2.727	35 48		18.72	
1194	Lacaille 4412	7.0	10 36 8.71	2	2.670	— 40 1		18.73	
1195	Anonymous	7.5	10 36 40.20	1	3.113	+ 4 58		18.75	
1196	Anonymous	8.2	10 36 51.59	1	3.113	+ 4 54		18.75	
1197	Anonymous		10 37 2.26	2	2.730	— 35 51		18.76	
1198	Anonymous		10 37 23.40	1	2.817	28 22		18.77	
1199	O. Arg. S. 10849		10 38 14.56	1	2.871	— 23 18		18.79	
1200	Weisse 664	8.9	10 38 15.78	3	3.113	+ 5 1 16.7	2	18.79	One observation, April 25, accidentally omitted in list of mean declinations.
1201	Anonymous	7.5	10 38 20.34	1	2.731	— 36 10		18.80	
1202	Lacaille 4437	6.2	10 38 42.08	2	2.732	— 36 15		18.81	
1203	37 Sextantis		10 39 22		3.129	+ 7 3 29.2	1	18.83	
1204	Anonymous	7.1	10 39 53.03	2	2.736	— 36 16		18.84	
1205	O. Arg. S. 10872	8.0	10 40 19.65	1	2.835	27 29		18.86	
1206	O. Arg. S. 10874	7.0	10 40 20.19	1	2.835	27 27		18.86	
1207	Anonymous		10 41 1.22	1	2.751	— 35 26		18.88	
1208	Carrington, g		10 41		50.396	+ 89 27 19.2:	1	18.88	
1209	Anonymous		10 41 23		2.813	— 29 57 6.4	1	18.89	
1210	Anonymous		10 41 36.69	1	2.753	— 35 26		18.90	
1211	l Leonis		10 42 25.41	7	3.160	+ 11 13 57.7	3	18.92	
1212	Anonymous		10 42 57		2.819	— 29 47 22.7	1	18.93	
1213	O. Arg. S. 10906		10 43 3		2.856	26 7 44.0	1	18.94	
1214	O. Arg. S. 10907		10 43 7		2.818	29 57 13.3	1	18.94	
1215	O. Arg. S. 10912		10 43 19		2.820	29 51 53.9	3	18.94	9″ greater than Argeleander.
1216	Lacaille 4480	7.0	10 43 26.04	1	2.723	38 29		18.95	
1217	B. A. C. 3719		10 43 54		2.785	— 33 22 15.9	1	18.96	
1218	Σ Cat. Gen. 1248	9.2	10 44 0.16	4	3.276	+ 25 8 21.0	1	18.96	
1219	Lacaille 4488		10 44 23		2.789	— 33 9 5.9	1	18.98	
1220	Carrington 1611		10 44 51		6.037	+ 81 44 40.3	1	18.99	
1221	Dorpat 1482, (1st *)	8.5	10 45 23.34	4	3.133	8 9 5.9	1	19.00	Declination belongs to "the brighter of the two."
1222	Dorpat 1482, (2d *)	9.0	10 45 23.88	4	3.133	8 9		19.00	
1223	B. A. C. 3726		10 45 32.79	1	3.085	1 43		19.01	
1224	Anonymous		10 45 43.97	1	3.183	+ 8 7		19.01	
1225	b^3 Hydræ		10 47 10		2.925	— 19 26 20.8	2	19.05	
1226	Lacaille 4503	8.0	10 47 9.69	1	2.725	39 43		19.05	
1227	Lacaille 4506	6.8	10 47 40.57	1	2.816	— 31 37		19.07	
1228	Weisse (2) 963	7.8	10 48 28.52	1	3.254	+ 23 51		19.09	
1229	54 Leonis, (1st *)	6.9	10 48 34.29	10	3.267	25 26 33.5	1	19.09	
1230	54 Leoni, s(2d *)	8.1	10 48 34.79	10	+ 3.267	+ 25 27		— 19.09	

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			h. m. s.		s.	° ′ ″		″	
1231	55 Leonis		10 49 1.13	1	+ 3.082	+ 1 26		— 19.10	
1232	Lacaille 4516		10 49 16		2.913	— 26 17 8.6	1	19.11	
1233	Lalande 21014		10 49 19.84	2	3.252	+ 23 57		19.11	
1234	Weisse (2) 994	7.8	10 50 13.90	3	3.257	+ 24 50 6.8	2	19.13	
1235	B. A. C. 3755	5.0	10 50 39.71	1	2.778	— 36 26		19.14	
1236	Anonymous		10 50 50.89	1	2.863	— 27 47		19.15	
1237	Weisse (2) 1017	8.8	10 51 37.55	1	3.235	+ 22 34		19.17	
1238	O. Arg. S. 11015	8.8	10 51 46.09	1	2.867	— 27 37		19.17	
1239	Anonymous	7.8	10 52 16.37	1	2.910	22 34		19.19	
1240	Anonymous		10 52 46.71	2	2.911	— 22 34		19.20	
1241	d Leonis		10 53 50.76	3	3.101	+ 4 18 55.0	1	19.23	
1242	Weisse 957	7.8	10 53 54.98	1	3.101	4 26		19.23	
1243	Carrington 1637		10 53 55		5.691	+ 81 44 23.3	1	19.23	
1244	Lacaille 4558	6.7	10 54 53.46	1	2.760	— 39 48		19.25	
1245	Anonymous	8.5	10 55 36.09	3	2.829	— 33 11		19.27	
1246	α Ursæ Majoris		10 55 40.93	1	3.782	+ 62 27 9.6	9	19.27	
1247	Lacaille 4566		10 55 56		2.793	— 37 8 8.3	2	19.28	
1248	B. A. C. 3778	7.0	10 56 6.89	2	2.892	— 26 7		19.28	
1249	p^3 Leonis		10 56 57.25	1	3.076	+ 0 42		19.30	
1250	Weisse 1025		10 57 43.61	1	3.157	+ 13 22		19.32	
1251	Lacaille 4576		10 58 5.31	1	2.777	— 39 36 28.6	1	19.33	
1252	χ Leonis		10 58 18.60	7	3.122	+ 8 2 19.0	1	19.33	
1253	O. Arg. S. 11114	9.0	10 58 58.26	1	2.871	— 29 44		19.35	
1254	Weisse 1044	7.8	10 59 0.87	1	3.155	+ 13 16		19.35	
1255	Weisse 1049	8.5	10 59 19.03	2	3.156	13 30		19.36	
1256	Anonymous	8.5	10 59 26.76	1	3.140	10 58		19.36	
1257	Weisse 1075	7.9	11 0 25.86	2	3.138	+ 10 55		19.38	
1258	O. Arg. S. 11147	8.2	11 0 37.61	2	2.875	— 29 51 2.3	1	19.39	
1259	Weisse 1087	9.0	11 1 1.56	1	3.138	+ 10 55		19.40	
1260	O. Arg. S. 11154		11 1 12		2.893	— 27 47 19.7	2	19.40	
1261	Anonymous	7.8	11 1 44.16	1	2.788	40 13		19.41	
1262	Lacaille 4607	7.0	11 1 44.76	1	2.812	37 42		19.41	
1263	Lacaille 4616	7.5	11 2 33.43	2	2.806	— 38 46		19.43	
1264	O. Arg. N. 11496	8.8	11 2 53.04	3	3.634	+ 59 36		19.44	
1265	Weisse 23		11 3 49		3.121	8 35 48.1	1	19.46	
1266	O. Arg. N. 11518	7.2	11 3 59.30	5	3.624	+ 59 36 14.4	2	19.46	
1267	Lacaille 4630	8.5	11 4 10.94	1	2.920	— 25 17 20.3	1	19.46	
1268	O. Arg. S. 11216	8.8	11 4 56.75	1	2.922	25 13		19.48	
1269	Lacaille 4638	7.5	11 5 37.53	1	2.923	— 25 25 41.1	1	19.49	
1270	(* 124) W.	9.5	11 5 44.01	1	3.601	+ 59 21 9.4:	1	19.50	
1271	Anonymous	9.0	11 5 47.85	1	3.601	59 22		19.50	
1272	Weisse (2) 98	9.0	11 6 36.15	1	3.192	21 18		19.52	
1273	Anonymous	10.5	11 7 0.41	1	3.841	68 16		19.52	
1274	p^5 Leonis		11 7 6.29	1	3.075	0 38		19.52	
1275	δ Leonis		11 7 11.53	23	3.191	21 14 10.8	1	19.53	
1276	Anonymous	8.5	11 7 44.43	1	3.583	59 22		19.54	
1277	O. Arg. N. 11584	8.0	11 7 56.99	2	3.571	58 55		19.54	
1278	Anonymous	9.8	11 8 1.56	1	3.826	+ 68 16		19.54	
1279	O. Arg. S. 11250		11 8 16		2.930	— 25 21 59.7	1	19.55	
1280	O. Arg. N. 11590	7.5	11 8 18.98	4	3.890	+ 69 55 40.0	1	19.55	
1281	Lacaille 4667		11 9 1		2.835	— 38 46 7.3	2	19.56	
1282	O. Arg. N. 11619	9.0	11 9 28.55	1	3.871	+ 69 53 47.1:	1	19.57	
1283	Lacaille 4693		11 12 15		2.951	— 23 37 58.9	1	19.62	
1284	δ Crateris		11 12 50.55	4	3.003	— 14 5		19.63	
1285	Anonymous		11 12 52.69	1	3.075	+ 0 36		19.63	
1286	Lacaille 4703	7.6	11 12 58.95	1	2.845	— 39 48		19.64	
1287	O. Arg. N. 11674	8.5	11 13 15.04	4	3.927	+ 72 26 11.8	1	19.64	
1288	Anonymous	9.0	11 13 58.55	1	3.119	+ 9 54		19.65	
1289	O. Arg. S. 11320	8.2	11 14 3.32	2	2.945	— 25 27		19.66	
1290	Schjellerup 4118		11 15 1		3.127	11 59 16.6	1	19.67	
1291	Lacaille 4714	8.0	11 15 2.77	2	2.928	— 28 54		19.67	
1292	Rumker 3539		11 15 6.30	1	3.117	+ 9 55		19.67	
1293	Weisse 261	9.2	11 16 32.13	1	3.089	+ 3 53		19.70	
1294	Lacaille 4732		11 17 28.96	3	2.950	— 26 14		19.71	
1295	Weisse 284		11 18 4.42	2	+ 3.084	+ 2 48 36.1	2	— 19.72	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1296	O. Arg. S. 11370	8.0	11 18 51.48	2	+ 2.955	— 26 9		— 19.73	
1297	83 Leonis, (1st *)	7.6	11 20 10.78	4	3.087	+ 3 43		19.75	
1298	83 Leonis, (2d *)	8.2	11 20 11.75	4	3.087	3 43		19.75	
1299	τ Leonis	5.0	11 21 15.12	3	3.086	3 33		19.77	
1300	Weisse 349	7.0	11 21 15.96	2	3.086	3 33		19.77	
1301	(* 123) W.	9.0	11 23 16.43	4	3.735	72 10 8.4	2	19.80	
1302	Weisse 390	8.0	11 23 18.29	1	3.087	3 56		19.80	
1303	λ Draconis		11 23 39		3.654	+ 70 2 54.5	4	19.80	
1304	Weisse 403	7.7	11 24 13.87	2	3.050	— 6 0		19.81	
1305	Lacaille 4766		11 24 24.13	1	2.907	— 38 31 9.5	2	19.81	
1306	B. A. C. 3917		11 24 42.20	3	3.086	+ 3 47		19.82	
1307	Durchmusterung + 0°, 2799	9.2	11 25 16.03	3	3.075	0 43 28.5	1	19.82	
1308	Lalande 21911	8.0	11 25 38.68	1	3.073	+ 0 18 32.9	1	19.83	
1309	B. A. C. 3921		11 25 50		2.964	— 28 33 4.2	1	19.83	
1310	B. A. C. 3922		11 25 50		2.964	— 28 32 56.0	1	19.83	
1311	Weisse 429	9.0	11 25 56.97	3	3.079	+ 2 4		19.83	
1312	Lacaille 4773		11 26 7		2.965	— 28 25 27.6	1	19.84	
1313	Anonymous		11 26 51.45	1	3.079	+ 2 5		19.85	
1314	O. Arg. N. 11873	8.5	11 27 36.13	3	3.636	+ 71 31		19.86	
1315	Anonymous	5.8	11 27 57.76	1	2.939	— 35 27		19.86	
1316	2 Draconis		11 28 23		3.578	+ 70 2 46.7	2	19.87	
1317	Anonymous	9.0	11 28 36.92	2	3.053	— 5 47		19.87	
1318	Anonymous	9.8	11 28 56.97	1	3.077	+ 1 28		19.87	
1319	O. Arg. N. 11901	9.0	11 29 46.12	2	3.591	71 16 26.4	1	19.88	
1320	B. A. C. 3940		11 29 54		3.093	6 49 47.6	1	19.88	
1321	(* 115) W.	9.5	11 30 8.14	1	3.076	+ 1 25		19.89	
1322	υ Leonis		11 30 17.60	9	3.072	— 0 6 21.8	2	19.89	
1323	Anonymous	9.0	11 30 41.84	2	3.573	+ 71 13		19.89	
1324	Anonymous		11 31 4.68	1	3.569	+ 71 17		19.90	
1325	Lacaille 4814		11 31 8.64	1	2.938	— 38 41		19.90	
1326	Anonymous	7.6	11 32 15.95	1	2.943	— 38 38		19.91	
1327	Weisse 553	9.4	11 32 36.78	3	3.077	+ 1 42		19.91	
1328	Anonymous	8.5	11 32 48.06	1	2.995	— 26 2		19.91	
1329	Lacaille 4830	7.2	11 32 57.25	2	2.946	38 40		19.92	
1330	Weisse 562	8.6	11 33 6.01	1	3.070	— 0 43		19.92	
1331	B. A. C. 3962	6.4	11 33 44.18	8	3.076	+ 1 40 22.2	1	19.92	
1332	Anonymous		11 33 49		2.992	— 27 46 32.0	2	19.93	
1333	Carrington 1741		11 33 54.51	1	4.065	+ 81 18		19.93	
1334	Weisse 592	9.2	11 34 47.94	3	3.077	+ 1 41		19.94	
1335	Lacaille 4849	7.0	11 34 55.33	1	2.968	— 34 52		19.94	
1336	Weisse 597	9.0	11 35 2.00	3	3.076	+ 1 43		19.94	
1337	B. A. C. 3969		11 35 18		2.983	— 31 46 39.5	2	19.94	
1338	Weisse 605	9.2	11 35 28.67	1	3.076	+ 1 44		19.94	
1339	Anonymous		11 36 39.66	1	3.005	— 25 7		19.94	
1340	Weisse 624	7.9	11 36 40.49	8	3.074	+ 0 55		19.95	
1341	O. Arg. N. 12020	7.5	11 37 14.89	1	3.530	+ 73 52 5.4	2	19.96	
1342	B. A. C. 3975	6.7	11 37 16.65	1	3.058	— 5 57 15.1	1	19.96	
1343	Weisse 643	9.2	11 37 51.30	3	3.055	— 7 21		19.96	
1344	Rumker 3727	5.0	11 38 29.02	1	3.106	+ 15 1		19.97	
1345	Weisse 673	8.0	11 39 30.12	1	3.060	— 5 55		19.98	
1346	Weisse 680	7.8	11 39 41.36	1	3.067	2 16		19.98	
1347	Lacaille 4882		11 39 53		2.993	34 1 47.0	1	19.98	
1348	Anonymous		11 40 32.51	1	3.019	25 13		19.98	
1349	Lacaille 4886		11 40 35.84	1	2.992	— 35 10		19.98	
1350	Anonymous	9.2	11 40 45.75	2	3.103	+ 15 18		19.98	
1351	O. Arg. S. 11656		11 40 46.61	2	3.019	— 25 14		19.98	
1352	Lacaille 4890		11 40 48		3.008	29 33 21.8	1	19.99	
1353	Anonymous	9.5	11 41 25.35	2	3.058	— 7 24		19.99	
1354	B. A. C. 3992		11 42 0		3.100	+ 15 0 22.3	1	19.99	
1355	Weisse (2) 812	8.2	11 42 17.22	2	3.100	15 14		20.00	
1356	β Leonis		11 42 25.64	22	3.100	15 17 56.3	7	20.00	
1357	β Virginis		11 43 55.20	5	3.076	+ 2 29 52.7	1	20.01	
1358	Anonymous		11 44 3.54	1	3.002	— 36 59		20.01	
1359	Anonymous	9.5	11 45 37.05	1	3.064	— 5 34		20.02	
1360	Weisse 773	8.4	11 45 37.11	2	+ 3.093	+ 14 13		— 20.02	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1361	Anonymous	8.0	11 46 14.40	3	+ 3.010	— 37 35		— 20.02	
1362	Weisse 785	7.4	11 46 14.97	9	3.092	+ 14 8 41.0	2	20.02	
1363	B. A. C. 4016		11 46 55		3.020	— 34 20 32.4	3	20.02	
1364	B. A. C. 4025	7.5	11 48 11.44	3	3.071	— 0 42 58.9	1	20.03	
1365	Anonymous	9.0	11 49 1.44	1	3.085	+ 11 4 42.2	1	20.03	
1366	B. A. C. 4034	7.5	11 49 19.24	1	3.022	— 38 58		20.03	
1367	Radcliffe 2768	9.0	11 50 10.51	4	3.122	+ 41 5		20.04	
1368	Radcliffe 2769	7.5	11 50 23.34	4	3.121	41 1		20.04	
1369	Radcliffe 2771	7.4	11 50 32.98	5	3.120	+ 41 4		20.04	
1370	Lacaille 4948		11 50 57		3.046	— 26 19 48.3	1	20.04	
1371	(* 113) W.	10.4	11 52 12.93	2	3.071	1 25		20.04	
1372	Weisse 895		11 52 54.98	4	3.071	— 1 11 38.0	1	20.05	
1373	Weisse 926	7.4	11 54 34.28	1	3.080	+ 13 6		20.05	
1374	Lacaille 4976	6.8	11 54 46.33	2	3.052	— 33 20		20.05	
1375	Anonymous	8.5	11 55 35.97	1	3.055	33 11		20.05	
1376	Anonymous	10.0	11 55 53.19	1	3.061	24 4		20.05	
1377	B. A. C. 4063		11 56 59		3.071	4 45 18.6	2	20.05	
1378	Lacaille 4993	7.6	11 57 0.92	2	3.058	38 17 1.9	2	20.05	
1379	O. Arg. S. 11876	7.8	11 57 53.73	2	3.065	— 30 27 47.4	1	20.06	
1380	Weisse 980	8.7	11 58 16.29	4	3.074	+ 9 26		20.06	
1381	*o* Virginis		11 58 35.23	8	3.073	+ 9 27 18.7	5	20.06	
1382	Lacaille 5013	6.0	11 59 16.07	1	3.069	— 34 58		20.06	
1383	Anonymous	8.5	11 59 23.80	1	3.070	30 15		20.06	
1384	Anonymous	8.0	11 59 29.66	1	3.070	30 15		20.06	
1385	Lacaille 5016		11 59 32.05	2	3.070	— 37 57		20.06	
1386	O. Arg. N. 12337	8.5	12 0 2.38	1	3.071	+ 75 23 42.9	1	20.06	
1387	O. Arg. S. 11917	9.0	12 0 54.06	1	3.075	— 30 41		20.06	
1388	O. Arg. S. 11920	6.0	12 0 56.94	1	3.074	23 14		20.06	
1389	Weisse 1030	8.0	12 1 32.78	1	3.073	3 34		20.06	
1390	*a* Corvi		12 1 44		3.077	24 0 12.1	1	20.06	
1391	Weisse 1033	9.2	12 1 48.33	1	3.073	3 37		20.06	
1392	Anonymous	8.0	12 2 22.95	1	3.081	32 18		20.06	
1393	O. Arg. S. 11944	8.5	12 2 40.07	1	3.080	27 16		20.06	
1394	Dorpat 1604, (1st *)	7.5	12 2 45.18	4	3.075	11 8		20.05	
1395	Dorpat 1604, (2d *)	9.1	12 2 48.41	3	3.075	— 11 8		20.05	
1396	10 Virginis		12 3 1.57	1	3.071	+ 2 38		20.05	
1397	*e* Corvi		12 3 26.49	3	3.080	— 21 54		20.05	
1398	O. Arg. N. 12397		12 3 28		2.994	+ 75 23 5.9	1	20.05	
1399	Weisse 34	7.9	12 4 23.55	2	3.068	+ 9 26 24.4	1	20.05	
1400	O. Arg. S. 11982	6.0	12 5 16.37	1	3.086	— 25 13		20.05	
1401	4 Draconis		12 6 5		2.900	+ 78 20 19.9	2	20.05	
1402	4 Draconis, S. P		12 6 5		2.900	+ 78 20 19.9	2	20.05	
1403	Lacaille 5065		12 6 39.70	2	3.103	— 38 12		20.05	
1404	Lacaille 5071		12 7 20		3.098	31 39 48.2	1	20.05	
1405	O. Arg. S. 12037	9.2	12 9 18.33	3	3.102	— 28 54 3.5	1	20.04	
1406	Weisse 160		12 11 32		3.065	+ 5 49 1.4	1	20.03	
1407	13 Virginis		12 12 0.41	3	3.072	— 0 3 51.1	1	20.03	
1408	Weisse 177	9.6	12 12 34.09	1	3.072	+ 0 7		20.03	
1409	Anonymous	8.0	12 12 41.36	2	3.107	— 25 18		20.03	
1410	Lacaille 5101		12 13 11		3.110	26 0 50.1	1	20.02	
1411	Anonymous		12 13 13.86	1	3.113	— 27 47		20.02	
1412	*η* Virginis		12 13 15.32	12	3.072	+ 0 3 21.5	5	20.02	
1413	O. Arg. S. 12101		12 14 30		3.113	— 26 0 37.5	1	20.02	
1414	O. Arg. S. 12116	6.0	12 15 40.98	1	3.112	— 23 31		20.01	
1415	Dorpat 1636, (1st *)	10.0	12 15 54.99	3	3.062	+ 6 2		20.01	
1416	17 Virginis		12 15 55.53	5	3.062	+ 6 1 44.0	1	20.01	
1417	B. A. C. 4171		12 16 30		3.083	— 6 34 41.3	2	20.00	
1418	O. Arg. S. 12124		12 16 35.34	1	3.119	25 45		20.00	
1419	Lacaille 5131	7.0	12 16 59.23	1	3.128	— 29 36		20.00	
1420	B. A. C. 4184		12 18 44		3.022	+ 24 38 54.3	1	19.99	
1421	Weisse 311	8.8	12 20 17.42	1	3.103	— 14 46		19.98	
1422	Lacaille 5159	6.5	12 20 37.60	1	3.136	27 59		19.97	
1423	O. Arg. S. 12173		12 20 39.02	1	3.140	29 22		19.97	
1424	B. A. C. 4198		12 21 6		3.107	15 54 43.9	2	19.97	
1425	Anonymous		12 21 45		+ 3.161	— 35 12 41.7	2	— 19.97	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1426	Anonymous	9.0	12 21 59.05	1	+ 3.169	37 14		— 19.96	
1427	Anonymous		12 22 21		3.164	— 35 16 38.8	2	19.96	
1428	Weisse 359		12 22 28		3.057	+ 6 40 47.4	1	19.96	
1429	Anonymous		12 23 0		3.166	— 35 6 41.0	2	19.96	
1430	δ Corvi		12 23 10		3.110	— 15 47 28.6	2	19.95	
1431	20 Comæ		12 23 14		3.018	+ 21 36 59.6	1	19.95	
1432	B. A. C. 4214	5.6	12 23 29.35	1	3.130	— 22 58		19.95	
1433	O. Arg. S. 12219	7.0	12 24 45.48	3	3.156	30 16		19.94	
1434	O. Arg. S. 12232	7.5	12 25 58.03	4	3.157	29 19 36.7	1	19.93	
1435	O. Arg. S. 12243	8.0	12 26 53.30	1	3.138	22 47		19.92	
1436	q Virginis		12 27 4.16	1	3.096	8 44		19.92	
1437	Anonymous	9.5	12 27 12.82	1	3.161	29 24		19.92	
1438	β Corvi		12 27 33.73	7	3.139	— 22 40		19.91	
1439	κ Draconis		12 27 55.23	1	2.613	+ 70 30 18.5	6	19.91	
1440	Weisse 452		12 27 57		3.053	+ 6 41 2.2	1	19.91	
1441	O. Arg. S. 12254	8.3	12 27 59.33	1	3.140	— 22 45		19.91	
1442	O. Arg. S. 12258		12 28 10.13	1	3.152	— 26 0		19.90	
1443	Weisse 461	8.2	12 28 33.61	1	3.032	+ 13 39		19.90	
1444	Weisse 463		12 28 40		3.063	+ 2 58 32.0	1	19.90	
1445	f Virginis		12 30 5.66	1	3.088	— 5 7		19.88	
1446	O. Arg. S. 12288		12 30 41		3.176	— 27 41 58.8	2	19.88	
1447	Weisse 497	8.0	12 30 49.00	1	3.028	+ 13 42		19.88	
1448	B. A. C. 4255		12 32 2.35	1	3.084	— 3 39		19.86	
1449	Weisse 519		12 32 3		3.024	+ 14 31 21.6	1	19.86	
1450	B. A. C. 4256	5.8	12 32 8.60	1	3.179	— 29 42 25.7	1	19.86	
1451	Anonymous	9.6	12 32 15.98	1	3.027	+ 13 32		19.86	
1452	χ Virginis		12 32 32.27	1	3.096	— 7 17		19.86	
1453	Lacaille 5234	7.2	12 33 15.50	3	3.218	37 8		19.84	
1454	Anonymous		12 34 24		3.175	27 11 38.3	1	19.83	
1455	O. Arg. S. 12342	7.5	12 34 35.13	3	3.163	24 17		19.83	
1456	γ^1 Virginis		12 35 4.54	1	3.075	0 44		19.82	
1457	γ^2 Virginis		12 35 4.62	1	3.075	0 44		19.82	
1458	28 Virginis		12 35 14		3.096	6 47 5.1	2	19.82	
1459	Anonymous	8.2	12 36 12.37	3	3.220	35 18		19.81	
1460	Anonymous	7.9	12 36 25.67	2	3.253	40 32		19.80	
1461	Anonymous		12 36 41		3.220	34 42 1.3	1	19.80	
1462	B. A. C. 4278		12 37 7		3.083	— 27 36 35.6	2	19.79	
1463	Weisse 632	8.0	12 38 23.67	4	3.016	+ 14 12		19.77	
1464	Weisse 646	8.1	12 38 54.92	2	3.015	14 7		19.77	
1465	Anonymous		12 39 2.70	1	3.023	12 7		19.77	
1466	Weisse 652	8.2	12 39 24.16	4	3.014	14 17 39.7	1	19.76	
1467	Anonymous	10.0	12 39 33.30	1	3.013	14 26		19.76	
1468	Lalande 23832	7.9	12 40 33.14	7	3.012	14 19 39.6	1	19.74	
1469	O. Arg. N. 12996	9.2	12 41 14.20	4	1.944	78 1		19.73	
1470	28 Comæ	6.5	12 41 43.68	4	3.011	+ 14 15 51.7	1	19.72	
1471	Weisse 722	9.3	12 43 16.86	1	3.125	— 11 51		19.70	
1472	Lacaille 5295		12 43 25		3.227	29 52 9.5	1	19.70	
1473	Anonymous	8.0	12 43 29.54	1	3.264	37 13		19.70	
1474	Weisse 728	7.5	12 43 41.08	2	3.127	12 19 34.1	1	19.69	
1475	Weisse 736		12 44 5		3.072	0 2 41.4	1	19.69	
1476	Weisse 743		12 44 40.81	1	3.131	12 46 15.0	1	19.68	Differs 10s. and 15″ from Weisse.
1477	Anonymous	9.5	12 44 41.41	1	3.194	25 9		19.68	
1478	Anonymous		12 45 39		3.283	38 36 17.6	1	19.66	
1479	Anonymous	9.0	12 45 54.40	1	3.285	38 41		19.65	
1480	Lacaille 5311		12 46 7		3.286	38 40 59.1	2	19.65	
1481	38 Virginis		12 46 31.82	1	3.085	2 51		19.64	
1482	Anonymous		12 47 18		3.213	27 15 7.7	2	19.63	
1483	Anonymous		12 47 36		3.294	38 48 3.9	1	19.62	
1484	Lacaille 5326	7.0	12 48 30.46	4	3.230	29 22		19.61	
1485	Weisse 834	7.5	12 49 36.74	3	3.145	— 14 14 34.4	1	19.59	
1486	B. A. C. 4345		12 49 55.51	2	2.838	+ 39 1 1.5	2	19.58	
1487	α Canum Venaticorum		12 49 56.61	8	2.838	+ 39 1 15.1	2	19.58	
1488	O. Arg. S. 12538	8.0	12 50 14.88	1	3.186	— 21 28		19.58	
1489	Lacaille 5340		12 50 32.27	1	3.252	31 37		19.57	
1490	Lacaille 5342		12 50 51.20	1	+ 3.304	— 38 13		— 19.57	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1491	Weisse 857	8.2	12 51 6.85	1	+ 3.144	— 13 38 30.9	2	— 19.56	
1492	Lacaille 5346		12 51 40.49	2	3.309	38 24		19.55	
1493	Anonymous	8.5	12 51 43.23	1	3.317	39 19		19.54	
1494	Anonymous		12 52 17		3.149	14 16 53.0	1	19.54	
1495	O. Arg. S. 12564	8.0	12 52 30.04	1	3.191	21 26		19.53	
1496	Anonymous		12 52 55		3.290	35 28 44.8	2	19.52	
1497	*k* Virginis		12 52 57.73	2	3.089	3 7		19.52	
1498	Anonymous		12 53 10.44	2	3.327	39 38		19.52	
1499	46 Virginis		12 53 54.40	1	3.087	2 40		19.50	
1500	Lacaille 5363		12 54 36		3.327	38 55 0.3	1	19.49	
1501	O. Arg. S. 12588	8.0	12 54 42.94	1	3.256	— 30 8		19.49	
1502	B. A. C. 4363		12 54 55		3.060	+ 2 13 16.7	2	19.48	
1503	Lacaille 5367		12 55 21		3.235	— 27 35 10.8	2	19.47	
1504	Anonymous	8.9	12 57 8.84	3	3.173	16 58		19.44	
1505	48 Virginis		12 57 12.60	1	3.089	2 58		19.43	
1506	Anonymous		12 57 18.94	1	3.322	37 5		19.43	
1507	Anonymous	9.5	12 57 19.95	1	3.160	14 56		19.43	
1508	O. Arg. S. 12620	8.5	12 57 20.11	1	3.233	25 59		19.43	
1509	Lacaille 5382		12 57 21		3.246	27 42 20.5	2	19.43	
1510	O. Arg. S. 12626	9.2	12 58 6.95	1	3.161	14 48		19.41	
1511	O. Arg. S, 12629	8.4	12 58 8.55	2	3.174	16 58 35.3	1	19.41	
1512	O. Arg. S. 12630	9.4	12 58 24.99	2	3.162	14 54		19.41	
1513	B. A. C. 4383		12 59 44		3.315	35 9 44.9	1	19.38	
1514	Lacaille 5405		13 0 34		3.272	29 44 19.2	1	19.36	
1515	O. Arg. S. 12662		13 1 8		3.255	27 30 33.2	2	19.35	
1516	Lacaille 5407		13 1 11		3.324	35 31 46.9	2	19.35	
1517	O. Arg. S. 12671	7.6	13 1 40.33	3	3.228	23 8		19.33	
1518	Weisse 16		13 3 13.13	1	3.103	4 51		19.30	
1519	*θ* Virginis		13 3 13.25	15	3.103	4 50 36.3	1	19.30	
1520	Lacaille 5426	5.5	13 4 15.89	2	3.326	34 26		19.27	
1521	53 Virginis	5.2	13 5 8.52	3	3.176	15 30		19.25	
1522	Anonymous	9.0	13 6 24.62	1	3.091	2 47		19.22	
1523	Anonymous	8.0	13 6 26.39	1	3.342	35 14		19.22	
1524	Weisse 81	7.8	13 6 39.10	1	3.091	2 48 13.6	2	19.21	
1525	O. Arg. S. 12733		13 7 54.39	1	3.293	29 30		19.18	
1526	Lalande 24598	9.2	13 8 51.09	2	3.106	4 57		19.16	
1527	Lalande 24610	7.9	13 9 19.28	3	3.107	4 58 43.5	1	19.15	
1528	Lalande 24624	7.4	13 9 55.81	2	3.106	4 53		19.13	
1529	Lacaille 5478	7.0	13 11 14.90	1	3.286	27 39		19.09	
1530	Weisse 169		13 11 35		3.109	5 6 12.6	1	19.09	
1531	O. Arg. S. 12808	7.5	13 13 41.60	3	3.252	23 5		19.03	
1532	Lacaille 5502		13 14 31.92	2	3.408	38 10		19.01	
1533	Lacaille 5503		13 14 33		3.376	35 25 45.9	4	19.01	
1534	Lacaille 5514	7.1	13 15 51.13	5	3.349	32 29		18.97	
1535	Lalande 24816		13 17 11		3.273	24 27 1.0	1	18.93	
1536	*α* Virginis		13 18 20.84	35	3.155	10 28 54.7	1	18.90	
1537	Anonymous	8.5	13 19 38.58	1	3.391	— 34 58		18.86	
1538	Weisse 303	9.6	13 19 56.86	2	3.053	+ 2 23		18.85	
1539	Weisse 304	8.5	13 20 0.30	1	3.117	— 5 38		18.85	
1540	Anonymous		13 20 33		3.394	34 59 38.3	2	18.83	
1541	Lacaille 5553		13 20 51		3.295	25 43 36.3	1	18.82	
1542	Anonymous		13 21 14.91	2	3.371	32 48		18.81	
1543	B. A. C. 4496		13 21 37		3.073	— 0 8 58.0	1	18.80	
1544	Weisse 354	9.0	13 22 56.15	5	3.052	+ 2 22 56.6	1	18.76	
1545	Anonymous	7.2	13 22 57.32	1	3.364	— 31 42		18.76	
1546	Lacaille 5569	5.0	13 23 30.80	3	3.454	38 44		18.74	
1547	Anonymous	9.4	13 24 17.90	3	3.402	34 30		18.72	
1548	Lacaille 5573	6.0	13 24 20.05	2	3.322	27 26		18.71	
1549	l^2 Virginis		13 25 12.53	1	3.120	5 35		18.69	
1550	Lacaille 5582		13 25 44		3.309	25 55 3.4	1	18.67	
1551	Weisse 426		13 26 38		3.132	6 57 13.9	1	18 64	
1552	Anonymous	8.0	13 27 34.14	1	3.446	36 53		18.61	
1553	Anonymous		13 27 48		3.422	— 34 58 55.3	3	18.60	
1554	*ζ* Virginis		13 28 4.21	14	3.071	+ 0 4 10.5	3	18.60	
1555	Anonymous	8.2	13 28 23.98	1	+ 3.324	— 26 36		— 18.59	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1556	Anonymuos	7.8	13 28 24.22	4	+ 3.383	— 31 42		— 18.59	
1557	Weisse 461		13 28 26		3.009	+ 7 7 11.2	1	18.58	
1558	Weisse 472		13 28 44		3.010	+ 7 10 33.8	1	18.57	
1559	B. A. C. 4541, (N. *)		13 29 37		3.319	— 25 49 51.5	2	18.54	
1560	B. A. C. 4541, (S. *)		13 29 37		3.319	25 50 1.8	2	18.54	
1561	Anonymous	7.8	13 30 1.79	4	3.289	22 57		18.53	
1562	O. Arg. S. 13003		13 31 4.19	2	3.361	29 11		18.49	
1563	Anonymous		13 31 4.79	1	3.481	38 21		18.49	
1564	O. Arg. S. 13005	9.5	13 31 5.90	1	3.292	23 2		18.49	
1565	Anonymous	8.5	13 31 29.95	1	3.474	37 43		18.48	
1566	Anonymous		13 32 3.71	2	3.376	— 30 13		18.46	
1567	Anonymous	9.0	13 32 11.94	1	0.812	+ 76 57 37.2	1	18.46	
1568	Anonymous	9.0	13 32 37.72	1	3.333	— 26 25		18.44	
1569	O. Arg. N. 13847	8 0	13 32 59.88	1	0.747	+ 77 12 40.1	1	18.43	
1570	Anonymous		13 34 6.87	1	3.490	— 38 2		18.39	
1571	*m* Virginis		13 34 47.45	1	3.148	8 3		18.36	
1572	Lacaille 5649, (1st *)		13 34 53.13	3	3.426	33 19		18.36	
1573	Lacaille 5649, (2d *)		13 34 53.17	3	3.426	33 19		18.36	
1574	Weisse 583		13 35 2		3.137	6 53 46.8	1	18.36	
1575	Anonymous		13 35 24.16	1	3.490	37 44		18.35	
1576	O. Arg. S. 13085	8.2	13 36 37.33	3	3.363	28 1		18.30	
1577	B. A. C. 4578		13 38 8		3.138	6 58 48.5	1	18.24	
1578	Anonymous	8.5	13 38 39.73	1	3.456	34 30		18.23	
1579	86 Virginis		13 39 0.88	1	3.189	11 47		18.21	
1580	Weisse 676		13 40 33		3.150	7 51 0.5	1	18.15	
1581	Anonymous		13 40 36.02	1	3.509	37 32		18.15	
1582	Anonymous		13 40 59.42	1	3.401	30 1		18.14	
1583	Weisse 694	7.8	13 41 13.18	1	3.146	7 23		18.13	
1584	Lacaille 5682		13 41 30		3.474	35 2 54.4	1	18.12	
1585	Weisse 708	8.2	13 41 59.50	2	3.148	— 7 33		18.10	
1586	η Ursæ Majoris		13 42 24.92	1	2.384	+ 49 58		18.09	
1587	89 Virginis		13 42 48.73	2	3.255	— 17 29		18.07	
1588	Anonymous	7.2	13 43 9.46	4	3.518	37 29		18.06	
1589	Anonymous		13 44 36.17	2	3.532	37 57		18.00	
1590	Anonymous	6.7	13 45 44.61	1	3.544	38 25		17.96	
1591	B. A. C. 4631		13 46 0		3.490	— 35 1 15.5	1	17.95	
1592	Weisse (2) 978	9.0	13 46 5.46	1	2.807	+ 23 57		17.94	
1593	Lacaille 5729	6.0	13 46 19.47	1	3.486	— 34 40		17.94	
1594	O. Arg. S. 13215	7.0	13 46 22.63	4	3.365	— 26 4		17.93	
1595	Weisse (2) 994	8.2	13 46 45.66	1	2.805	+ 23 57		17.92	
1596	η Bootis		13 48 29.70	19	2.861	+ 19 3 3.8	4	17.85	
1597	Anonymous	8.0	13 48 31.15	3	3.549	— 38 0		17.85	
1598	Lacaille 5758	7.2	13 48 59.06	3	+ 3.545	— 37 40		17.83	
1599	Radcliffe 3117	7.0	13 50 30.76	1	— 0.323	+ 79 39		17.77	
1600	Lacaille 5773	7.5	13 50 39.07	1	+ 3.366	— 25 22		17.76	
1601	47 Hydræ		13 51 14		3.354	24 20 9.2	1	17.74	
1602	Anonymous		13 51 25.61	4	3.540	36 51		17.73	
1603	Anonymous		13 51 25.85	1	3.539	36 45		17.73	
1604	Anonymous	8.0	13 52 38.33	2	3.544	36 51		17.68	
1605	Brisbane 4727	7.5	13 53 23.53	2	3.548	36 51		17.65	
1606	Anonymous		13 53 23.53	1	3.470	33 3		17.65	
1607	Lacaille 5783	6.0	13 53 28.49	1	3.597	39 36		17.65	
1608	Anonymous		13 54 0		3.585	38 48 26.6	1	17.63	
1609	Anonymous		13 54 22.72	1	3.551	— 36 49		17.61	
1610	Weisse 931	9.3	13 54 56.93	2	3.047	+ 2 11		17.59	
1611	B. A. C. 4671		13 54 59		3.397	— 26 48 2.3	1	17.58	
1612	τ Virginis		13 55 1.91	13	3.047	+ 2 11		17.58	
1613	Anonymous		13 56 20		3.564	— 37 8 44.1	1	17.53	
1614	Lacaille 5798, (1st *)	8.0	13 56 20.09	1	3.555	36 38		17.53	
1615	Laaaille 5798, (2d *)	7.0	13 56 22.25	1	3.555	36 38		17.53	
1616	O. Arg. S. 13349	8.0	13 56 55.54	3	3.419	27 58		17.50	
1617	Lacaille 5812	7.5	13 58 9.91	1	3.571	37 6 19.5	1	17.45	
1618	Anonymous		13 58 10.54	3	3.359	23 3		17.45	
1619	Lacaille 5822	6.6	13 59 25.90	1	3.536	34 52		17.39	
1620	Anonymous	9.0	13 59 26.57	1	+ 3.248	— 14 49		— 17.39	

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			h. m. s.		s.	° ′ ″		″	
1621	94 Virginis		13 59 25		+ 3.169	— 8 16 9.2	1	— 17.39	
1622	Anonymous	9.0	13 59 35.96	1	3.249	14 51		17.39	
1623	O. Arg. S. 13387	6.7	13 59 36.80	2	3.408	26 44		17.39	
1624	B. A. C. 4691		14 0 9		3.258	15 34 8.2	1	17.36	
1625	Anonymous	8.5	14 0 30.28	1	3.408	— 26 36		17.35	
1626	α Draconis		14 0 53		1.629	+ 64 59 52.8	4	17.33	
1627	Anonymous	8.0	14 1 8.90	1	3.402	— 26 3		17.32	
1628	Anonymous	8.2	14 1 37.83	3	3.410	26 33		17.29	
1629	Anonymous	8.5	14 1 41.71	3	3.410	26 33		17.29	
1630	Anonymous		14 3 1.23	1	3.407	26 5		17.24	
1631	Lacaille 5839	7.8	14 3 15.72	2	3.491	31 28		17.22	
1632	Anonymous	8.0	14 3 32.58	1	3.385	24 30		17.21	
1633	O. Arg. S. 13438	8.0	14 3 56.54	1	3.404	25 44		17.19	
1634	50 Hydræ	5.0	14 5 19.38	1	3.421	26 39		17.13	
1635	Anonymous	8.8	14 5 33.16	3	3.522	32 53		17.12	
1636	Anonymous	9.1	14 5 36.96	4	3.523	32 54		17.12	
1637	Anonymous	8.8	14 5 43.68	5	3.523	32 54		17.11	
1638	κ Virginis		14 5 57.79	2	3.191	9 40		17.10	
1639	Anonymous	9.0	14 7 57.07	1	3.605	36 58		17.01	
1640	Lacaille 5872	5.3	14 8 37.01	5	3.527	32 37		16.98	
1641	Lacaille 5877	8.2	14 8 57.43	1	3.560	— 34 24		16.96	
1642	α Bootis		14 9 43.95	45	2.813	+ 19 51 47.5	10	16.93	
1643	Anonymous		14 10 18.68	1	3.129	— 4 32		16.90	
1644	Lacaille 5883	5.5	14 10 42.63	5	3.534	32 37		16.88	
1645	Anonymous		14 10 58.44	1	3.610	36 39		16.87	
1646	Weisse 171		14 11 3.87	1	3.129	4 32		16.86	
1647	Weisse 174		14 11 9.82	1	3.129	4 32		16.86	
1648	λ Virginis		14 12 4.62	2	3.237	12 46		16.82	
1649	Weisse 199, (1st *)	8.0	14 12 30.50	3	3.242	13 7		16.80	
1650	Weisse 199, (2d *)	7.0	14 12 30.66	3	3.242	13 6 32.6	1	16.80	
1651	O. Arg. S. 13541	7.0	14 12 37.84	1	3.452	27 27		16.79	
1652	Anonymous	7.0	14 13 51.06	1	3.650	38 5		16.73	
1653	Lacaille 5910	6.5	14 14 30.37	1	3.461	27 43		16.70	
1654	Anonymous	8.2	14 16 16.78	1	3.448	26 38		16.61	
1655	Anonymous	8.5	14 16 19.02	3	3.462	27 31		16.61	
1656	2 Libræ		14 16 26.08	2	3.219	11 7 5.7	1	16.60	
1657	Lacaille 5923	6.8	14 16 30.90	1	3.550	32 30		16.60	
1658	Weisse 293	7.0	14 17 32.31	5	3.253	13 29 22.6	1	16.55	
1659	Anonymous	7.4	14 17 40.49	1	3.483	27 31		16.55	
1660	Anonymous	9.0	14 18 16.99	1	3.444	26 7		16.52	
1661	B. A. C. 4776	7.0	14 18 17.90	1	3.446	26 16		16.52	
1662	Weisse 316	8.0	14 18 20.23	4	3.254	13 29 50.1	1	16.51	
1663	O. Arg. S. 13611	7.5	14 18 33.24	2	+ 3.453	— 26 38		16.50	
1664	Schwerd 835		14 18 44.05	1	— 1.221	+ 79 57		16.49	
1665	θ Bootis		14 20 46.14	1	+ 2.069	+ 52 27 11.7	3	16.39	
1666	Anonymous		14 20 49.08	1	3.452	— 26 14		16.39	
1667	Lacaille 5956	6.0	14 22 1.97	1	3.441	25 25 50.9	1	16.33	
1668	Lacaille 5963		14 23 8.02	1	3.690	38 18		16.27	
1669	O. Arg. S. 13679	7.5	14 23 13.40	2	3.458	26 15		16.27	
1670	O. Arg. S. 13694		14 24 20.47	2	3.420	23 58		16.21	
1671	O. Arg. S. 13697	7.8	14 24 32.51	1	3.476	27 8		16.20	
1672	Lacaille 5983	5.0	14 25 27.78	3	3.538	— 30 8		16.15	
1673	ρ Bootis		14 26 13.62	3	2.592	+ 30 57		16.11	
1674	Anonymous	9.5	14 26 43.25	1	+ 3.535	— 30 7		16.08	
1675	5 Ursæ Minoris		14 27 50		— 0.220	+ 76 16 25.9	4	16.02	
1676	O. Arg. S. 13747	7.8	14 28 54.21	2	+ 3.496	— 27 40		15.97	
1677	Anonymous		14 29 8.03	2	3.681	36 57		15.96	
1678	O. Arg. S. 13757		14 29 34		3.455	25 13 45.0	1	15.93	
1679	Anonymous		14 29 52.56	1	3.499	27 40		15.92	
1680	Weisse 540		14 30 25		3.119	3 19 25.3	1	15.89	
1681	O. Arg. S. 13813	7.2	14 32 52.23	1	3.470	25 42		15.75	
1682	O. Arg. S. 13814	8.5	14 32 57.09	1	3.470	25 42		15.75	
1683	Lacaille 6047	6.0	14 33 22.60	3	3.474	25 53		15.73	
1684	Anonymous	7.3	14 34 9.69	3	3.596	32 11		15.69	
1685	Lacaille 6054	6.0	14 34 24.47	3	+ 3.597	— 32 12		— 15.67	

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			h. m. s.		s.	° ″		″	
1686	Lacaille 6060	7.5	14 34 48.67	1	+ 3.502	— 27 13 44.1	1	— 15.65	
1687	Schwerd 853	6.8	14 37 18.65	2	— 1.844	+ 80 13 14.9	1	15.51	
1688	Anonymous		14 37 25.26	1	+ 3.720	— 37 24		15.51	
1689	54 Hydræ, (1st *)	6.4	14 38 28.85	4	3.468	24 53		15.45	
1690	54 Hydræ, (2d *)	7.7	14 38 29.34	4	3 468	24 53		15.45	
1691	5 Libræ		14 38 47.86	1	3.299	— 14 54 35.2	1	15.43	
1692	ε Bootis		14 39 18.59	19	+ 2.624	+ 27 37 25.2	3	15.40	
1693	Lalande, F., 2537	8.0	14 42 56.85	1	— 2.059	+ 80 21		15.20	
1694	O. Arg. S. 13978	7.8	14 43 13.36	4	+ 3.532	— 27 47		15.18	
1695	8 Libræ		14 43 29.99	5	3.314	15 27		15.17	
1696	α Libræ		14 43 41.39	13	3.315	15 29 59.1	2	15.16	
1697	Lacaille 6134	7.5	14 46 4.50	5	3.541	27 53		15.02	
1698	B. A. C. 4911	6.9	14 46 38.92	4	3.541	27 49		14 98	
1699	O. Arg. S. 14042		14 46 52.53	1	3.540	27 45		14.97	
1700	O. Arg. S. 14065		14 48 29		3.515	26 16 23.1	1	14.88	
1701	O. Arg. S. 14080	6.0	14 49 19.97	1	3.506	25 45 24.0	1	14.83	
1702	O. Arg. S. 14094	7.5	14 49 58.63	1	+ 3.430	— 21 37		14.79	
1703	β Ursæ Minoris		14 51 6.40	1	— 0.245	+ 74 41 12.9	1	14.72	
1704	Anonymous		14 51 17.57	1	+ 3.551	— 27 48		14.71	
1705	Anonymous	7.9	14 51 23.14	1	3.950	— 43 59		14.70	
1706	Weisse (2) 1130, (1st *)		14 52 30.52	1	2.286	+ 40 41		14.63	
1707	Weisse (2) 1130, (2d *)		14 52 31.26	1	2.286	40 41		14.63	
1708	Weisse (2) 1139		14 52 45.45	1	2.285	40 42		14.62	
1709	Weisse (2) 1146		14 53 6.47	1	2.283	40 43		14.60	
1710	Weisse (2) 1154	7.8	14 53 19.82	1	2.188	43 56		14.59	
1711	Weisse (2) 1162	8.6	14 53 35.82	1	2.188	+ 43 54		14.57	
1712	60 Hydræ		14 54 24		3.553	— 27 32 34.8:	1	14.52	
1713	Anonymous	9.5	14 56 9.52	1	2.901	+ 10 27		14.42	
1714	Anonymous		14 56 19		3.557	— 27 32 58.7	1	14.41	
1715	Anonymous		14 56 36.17	1	2.900	+ 10 27		14.39	
1716	Weisse 1048		14 56 54		3.245	— 10 29 29.0	2	14.37	
1717	β Bootis		14 57 2.94	2	2.264	+ 40 54		14.36	
1718	Anonymous	9.5	14 57 40.44	2	2.899	+ 10 27		14.33	
1719	Anonymous		14 57 41.94	1	3.535	— 26 20		14.33	
1720	Anonymous		14 58 53		3.659	31 56 43.5	3	14.25	
1721	O. Arg. S. 14246	6.2	14 58 57.12	3	3.521	25 31		14.25	
1722	O. Arg. S. 14277	8.2	15 0 41.04	2	3.539	26 13		14.14	
1723	Weisse 1144	9.0	15 1 35.09	1	3.261	11 14		14.08	
1724	Weisse 1149	7.8	15 1 50.91	2	3.263	11 18		14.07	
1725	O. Arg. S. 14324	5.5	15 2 16.51	2	3.487	23 31		14.04	
1726	Weisse 3	8.2	15 2 33.59	2	3.259	11 4 37.3	2	14.03	
1727	Weisse 10	7.0	15 2 45.15	1	3.154	4 54		14.01	
1728	ι^1 Libræ		15 4 48.87	2	3.410	19 17 51.8	1	13.88	
1729	Dorpat 1914, (1st *)	9.5	15 4 53.08	1	3.156	4 59		13.87	
1730	Dorpat 1914, (2d *)	8.3	15 4 53.81	4	3.156	4 59		13.87	
1731	O. Arg. S. 14349	8.0	15 5 4.15	1	3.526	25 11		13.86	
1732	B. A. C. 5006		15 6 11.45	1	3.539	25 42		13.79	
1733	Lacaille 6289		15 8 6.77	1	3.849	39 5		13.67	
1734	O. Arg. S. 14402		15 8 18.26	1	3.437	— 20 27		13.66	
1735	3 Serpentis		15 8 45		2.979	+ 5 25 27.8	1	13.63	
1736	β Libræ		15 10 0.82	12	3.226	— 8 54 3.6	2	13.55	
1737	O. Arg. S. 14428	6.7	15 10 22.61	2	3.428	20 14		13.52	
1738	O. Arg. S. 14437	7.2	15 10 51.40	2	3.439	20 23		13.50	
1739	B. A. C. 5039		15 11 32.06	1	3.510	23 48		13.45	
1740	B. A. C. 5041		15 12 2.71	1	3.510	23 48		13.42	
1741	Anonymous		15 12 34.20	1	3.526	24 30		13.38	
1742	B. A. C. 5051		15 13 0		3.548	25 30 41.4	1	13.36	
1743	Lacaille 6344	7.2	15 14 20.15	3	3.741	33 42		13.27	
1744	O. Arg. S. 14513		15 16 36.77	1	3.486	— 22 15 31.1	1	13.12	
1745	(* 117) W.	7.6	15 17 12.00	2	1.581	+ 55 48		13.08	
1746	Lacaille 6368		15 17 36.43	1	3.907	— 39 26		13.05	
1747	Lacaille 6372	6.5	15 17 46.04	1	3.812	36 4		13.04	
1748	O. Arg. S. 14544		15 18 34.34	2	3.462	20 55		12.99	
1749	Lacaille 6376	6.0	15 18 59.01	1	3.821	— 36 18		12.96	
1750	μ Bootis		15 19 34.83	2	+ 2.278	+ 37 50 4.6	1	— 12.92	

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			h. m. s.		s.	° ′ ″		″	
1751	Lalande 28159		15 19 36		+ 2.279	+ 37 48 15.8	1	— 12.92	
1752	ζ^1 Libræ		15 20 55.50	1	3.372	— 16 15 38.7	1	12.83	
1753	γ^2 Ursæ Minoris		15 20 57		2.753	+ 72 17 47.7	1	12.83	
1754	Anonymous		15 21 6		3.881	— 38 10 45.4	2	12.82	
1755	O. Arg. N. 15370		15 21 38.55	1	1.796	+ 51 4		12.78	
1756	Anonymous		15 23 28.81	1	3.517	— 23 13		12.66	
1757	Anonymous		15 23 39		3.725	32 10 44.2	1	12.64	
1758	Anonymous		15 23 40		3.888	38 10 26.0	2	12.64	
1759	B. A. C. 5105		15 24 35.44	2	3.524	23 27		12.58	
1760	Weisse 444	8.0	15 25 15.46	2	3.240	9 9		12.54	
1761	Lacaille 6415	6.0	15 25 27.69	1	3.937	39 38		12.52	
1762	γ Libræ		15 28 15.34	1	3.342	14 21		12.33	
1763	Anonymous		15 28 36		3.737	32 12 8.2	2	12.31	
1764	Anonymous		15 28 40		3.736	32 8 51.2	2	12.30	
1765	Anonymous		15 29 7		3.918	— 38 39 25.2	2	12.27	
1766	α Coronæ Borealis		15 29 11.05	21	2.529	+ 27 9 15.6	1	12.27	
1767	Anonymous		15 29 21		3.735	— 32 3 6.1	1	12.26	
1768	Lacaille 6447	7.0	15 30 0.34	1	3.923	38 43 49.3	1	12.21	
1769	Lacaille 6448	6.9	15 30 9.47	1	3.922	38 41 55.8	1	12.20	
1770	Anonymous	9.0	15 31 29.68	1	3.846	35 59		12.10	
1771	Anonymous		15 31 37.36	2	3.841	35 43		12.09	
1772	O. Arg. S. 14736	7.8	15 31 55.17	2	3.533	23 22 25.8	1	12.08	
1773	Lacaille 6471	6.0	15 32 29.75	1	3.956	39 34		12.04	
1774	42 Libræ	5.4	15 32 36.04	3	3.535	23 23 34.4	1	12.03	
1775	Anonymous		15 34 9.51	2	3.834	35 20		11.92	
1776	B. A. C. 5171	7.4	15 34 11.56	1	3.883	37 0		11.92	
1777	Lacaille 6499	6.7	15 35 57.65	1	3.727	31 12		11.79	
1778	Anonymous		15 36 3.90	2	3.703	30 15		11.78	
1779	Anonymous		15 36 43.32	3	3.704	30 15		11.74	
1780	Anonymous	8.5	15 37 8.96	1	3.376	— 15 59		11.71	
1781	α Serpentis		15 37 51.92	12	2.941	+ 6 50 11.2	1	11.65	
1782	Lacaille 6517, (1st *)	6.5	15 38 43.47	2	3.839	— 35 7		11.59	
1783	Lacaille 6517, (2d *)	7.0	15 38 45.05	2	3.839	35 7		11.59	
1784	O. Arg. S. 14861	9.6	15 39 13.41	1	3.594	25 32		11.56	
1785	O. Arg. S. 14864		15 39 29		3.622	26 40 51.0	2	11.54	
1786	B. A. C. 5211	7.8	15 40 6.92	1	3.597	25 35		11.50	
1787	B. A. C. 5220		15 40 44.49	1	3.548	23 26		11.45	
1788	b Scorpii	5.3	15 43 9.79	2	3.596	— 25 21		11.28	
1789	ϵ Serpentis		15 44 20.26	5	2.978	+ 4 52		11.19	
1790	A Scorpii, (1st *)	8.0	15 45 48.51	1	3.590	— 24 56		11.08	
1791	A Scorpii, (2d *)	5.8	15 45 48.62	3	3.590	24 56		11.08	
1792	θ Libræ		15 46 25.45	1	3.400	16 21		11.04	
1793	3 Scorpii	6.2	15 46 51.46	1	3.590	24 51		11.01	
1794	Anonymous	8.9	15 48 31.96	1	+ 3.585	— 24 33		10.89	
1795	ζ Ursæ Minoris, S. P.		15 48 45		— 2.702	+ 78 11 34.2	1	10.87	
1796	O. Arg. S. 15061	8.6	15 50 17.58	1	+ 3.397	— 16 25 56.5	2	10.75	
1797	O. Arg. S. 15067		15 50 33.70	1	3.411	16 42 31.1	2	10.73	
1798	π Scorpii		15 51 1		3.617	— 25 44 13.9	1	10.70	
1799	ϵ Coronæ Borealis		15 52 12.46	1	2.487	+ 27 15		10.60	
1800	δ Scorpii		15 52 39.02	2	3.537	— 22 15		10.58	
1801	Lacaille 6641	6.0	15 53 34.43	1	3.911	36 22		10.51	
1802	O. Arg. S. 15134	8.1	15 54 36.39	3	3.624	25 46 53.6	2	10.43	
1803	B. A. C. 5314	5.8	15 55 29.48	2	3.618	25 30 2.1	1	10.37	
1804	O. Arg. S. 15179		15 56 58		3.513	20 59 31.4	1	10.25	
1805	51 Libræ, (1st *)	5.2	15 57 13.31	3	3.297	11 1		10.24	
1806	51 Libræ, (2d *)	8.0	15 57 13.88	2	3.297	— 11 1		10.24	
1807	Weisse 1080		15 57 52.30	1	3.051	+ 1 2		10.19	
1808	β Scorpii		15 57 52.85	5	3.479	— 19 26 49.0	1	10.19	
1809	O. Arg. S. 15225	8.5	15 59 9.41	1	3.529	21 34		10.09	
1810	O. Arg. S. 15227	7.3	15 59 11.16	1	3.528	21 31		10.09	
1811	O. Arg. S. 15235	9.0	15 59 37.48	1	3.532	21 42		10.05	
1812	O. Arg. S. 15240	8.5	15 59 46.97	1	3.505	20 31		10.04	
1813	O. Arg. S. 15242	5.5	15 59 48.97	1	3.507	20 35		10.04	
1814	Anonymous		15 59 54		4.001	38 45 14.7	1	10.04	
1815	Lacaille 6695		15 59 55		+ 4.001	— 38 44 28.7	1	— 10.04	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1816	O. Arg. S. 15295	8.8	16 1 57.00	1	+ 3.428	— 17 0 11.2	2	— 9.88	
1817	O. Arg. S. 15300	9.0	16 1 58.57	1	3.426	16 54		9.88	
1818	B. A. C. 5365		16 2 21.17	1	3.596	24 14		9.85	
1819	B. A. C. 5378	8.6	16 3 36.15	1	3.662	26 48		9.76	
1820	Anonymous	8.9	16 3 38.92	1	3.661	26 45		9.75	
1821	O. Arg. S. 15342	8.2	16 3 46.93	2	3.447	17 46 28.6	3	9.74	
1822	ν Scorpii		16 4 2[illegible] 61	2	3.478	19 7		9.69	
1823	Anonymous	7.5	16 4 32.41	1	3.449	17 51		9.68	
1824	O. Arg. S. 15398	7.8	16 5 57.53	3	3.449	17 45 55.2	3	9.57	
1825	δ Ophiuchi		16 7 32.10	3	3.141	3 21		9.45	
1826	Lacaille 6765		16 9 3		3.885	34 29 51.2	1	9.33	
1827	Lacaille 6774		16 9 50		3.890	34 35 30.2	2	9.27	
1828	19 Scorpii	5.7	16 12 48.91	2	3.600	23 51		9.04	
1829	σ Scorpii		16 13 17.34	1	3.636	25 17		9.00	
1830	Lacaille 6806		16 14 46		3.899	34 36 51.1	1	8.89	
1831	Lacaille 6818		16 16 0		3.910	34 52 11.6	1	8.79	
1832	Lacaille 6821		16 16 19		3.901	34 35 19.4	2	8.76	
1833	ψ Ophiuchi		16 16 29.88	2	3.504	19 44		8.75	
1834	O. Arg. S. 15595	8.2	16 16 39.95	3	3.567	22 21		8.74	
1835	B. A. C. 5474		16 17 31.22	2	3.743	29 6		8.67	
1836	O. Arg. S. 15632		16 19 9.86	1	3.747	29 10		8.54	
1837	O. Arg. S. 15641		16 19 15.37	2	3.745	29 4		8.53	
1838	B. A. C. 5487		16 19 21.84	1	3.743	28 59		8.53	
1839	χ Ophiuchi		16 19 29.40	1	3.469	18 9		8.52	
1840	υ Ophiuchi		16 20 49		3.244	8 4 43.2	1	8.41	
1841	O. Arg. S. 15659		16 21 9		+ 3.619	— 24 14 19.9	1	8.38	
1842	η Ursæ Minoris, S. P.		16 21 20		— 1.820	+ 76 3 13.3	2	8.37	
1843	α Scorpii		16 21 26.36	9	+ 3.668	— 26 8		8.36	
1844	η Draconis		16 22 14.15	1	0.800	+ 61 49		8.30	
1845	O. Arg. S. 15698	9.0	16 23 51.12	4	3.578	— 22 31		8.17	
1846	ω Ophiuchi		16 24 26.00	3	3.546	21 11 8.9	1	8.13	
1847	O. Arg. S. 15713		16 24 47		3.529	20 28 17.4	1	8.09	
1848	Weisse 462	7.5	16 25 46.68	1	3.294	10 17		8.01	
1849	O. Arg. S. 15726	8.4	16 26 2.96	4	3.581	22 33		7.99	
1850	Lacaille 6888	6.0	16 27 33.33	1	4.106	40 3		7.87	
1851	Weisse 539	6.8	16 29 27.55	2	3.258	8 35 6.6	3	7.72	
1852	Weisse 544		16 29 51.61	1	3.259	8 37		7.69	
1853	ζ Ophiuchi		16 30 0.05	3	3.297	— 10 18		7.68	
1854	Weisse 562	8.8	16 30 34.61	2	3.067	+ 0 13		7.63	
1855	O. Arg. S. 15790		16 31 0		3.748	— 28 38 26.7	1	7.59	
1856	Weisse 575	8.0	16 31 8.63	1	3.065	+ 0 19		7.58	
1857	B. A. C. 5562		16 32 4		3.750	— 28 40 44.9	1	7.51	
1858	Weisse 619	7.0	16 33 5.47	4	3.199	— 5 49		7.43	
1859	Weisse 637		16 34 3.22	1	3.070	+ 0 6		7.35	
1860	Anonymous		16 34 11		4.089	— 39 15 29.9	1	7.34	
1861	O. Arg. S. 15868	8.5	16 35 18.80	3	3.553	21 5		7.32	
1862	Anonymous		16 35 52		4.088	39 8 41.8	1	7.20	
1863	Lacaille 6970		16 37 55		4.091	— 39 8 8.9	1	7.02	
1864	η Herculis		16 38 26.44	3	2.051	+ 39 10		6.99	
1865	Weisse 758	9.0	16 40 27.02	2	3.204	— 5 59		6.83	
1866	Weisse 760	7.7	16 40 28.92	2	3.206	6 6		6.83	
1867	Lacaille 6987		16 40 51		3.914	33 46 56.4	1	6.79	
1868	Weisse 792, (1st *)		16 42 13.15	2	3.180	4 55		6.68	
1869	Weisse 792, (2d *)		16 42 16.81	2	3.180	4 55		6.67	
1870	20 Ophiuchi		16 42 38.64	1	3.307	10 33		6.64	
1871	O. Arg. S. 16045		16 44 46		3.511	19 7 59.0	1	6.47	
1872	Weisse 845		16 44 55		3.264	8 38 27.7	1	6.45	
1873	Weisse 854	7.7	16 45 18.74	2	3.195	5 34		6.42	
1874	Lalande 30671	8.0	16 45 36.39	4	3.181	4 55 43.9	1	6.40	
1875	Anonymous	9.0	16 46 7.54	1	3.568	22 8		6.35	
1876	B. A. C. 5671		16 46 21		3.815	30 22 14.1	1	6.34	
1877	B. A. C. 5684		16 47 31.45	1	3.842	31 13		6.24	
1878	23 Ophiuchi	6.0	16 47 38.85	3	3.204	5 56		6.23	
1879	Anonymous		16 47 52.87	1	3.844	31 15		6.21	
1880	O. Arg. S. 16121		16 48 18		+ 3.800	— 30 22 10.3	1	— 6.17	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1881	Weisse 913	7.5	16 48 51.69	3	+ 3.204	— 5 55		— 6.13	
1882	24 Ophiuchi		16 48 57.66	1	3.612	22 56		6.12	
1883	Anonymous		16 50 34.51	1	3.164	4 7		5.99	
1884	Weisse 958	8.0	16 51 27.38	3	3.164	— 4 8 20.4	1	5.91	Error of 1′ in Weisse's reduction.
1885	κ Ophiuchi		16 51 30.91	8	2.856	+ 9 34 45.3	2	5.91	
1886	Anonymous		16 52 27		4.041	— 37 8 1.1	1	5.82	
1887	Anonymous		16 53 10		4.041	37 6 23.5	2	5.77	
1888	O. Arg. S. 16213		16 53 35		3.545	20 14 28.7	1	5.73	
1889	O. Arg. S. 16223		16 53 48.29	2	3.507	18 44		5.71	
1890	30 Ophiuchi		16 54 12		3.162	4 1 29.5	2	5.68	
1891	29 Ophiuchi	550	16 54 15.13	3	3.506	18 41		5.68	
1892	Anonymous		16 54 55		4.038	36 58 16.4	2	5.62	
1893	B. A. C. 5730		16 55 35.37	1	3.645	24 3		5.56	
1894	Anonymous	8.5	16 56 1.90	1	3.645	24 2		5.52	
1895	B. A. C. 5742	7.0	16 56 32.48	1	3.646	24 3		5.49	
1896	B. A. C. 5743	7.5	16 56 35.98	2	3.623	— 23 12		5.47	
1897	*d* Herculis		16 56 48.35	3	2.212	+ 33 46		5.46	
1898	Weisse (2) 1735	6.0	16 56 58.84	1	2.453	+ 25 41		5.44	
1899	O. Arg. S. 16291		16 57 3.28	1	3.548	— 20 18		5.44	
1900	Lacaille 7123		16 57 36		4.044	37 2 43.2	2	5.39	
1901	Lacaille 7128		16 57 44.64	1	3.776	28 40		5.38	
1902	Lalande 31055	6.7	16 58 17.61	2	3.181	4 49		5.33	
1903	Anonymous		16 58 43		— 4.049	— 37 7 47.8	1	5.30	
1904	*e* Ursæ Minoris		16 59 22.84	25	+ 6.407	+ 82 15		5.24	
1905	*e* Ursæ Minoris, S. P.		16 59 22.76	4	— 6.407	+ 82 15		5.24	
1906	O. Arg. S. 16352	9.0	17 0 32.09	2	+ 3.721	— 26 40		5.14	
1907	Lalande 31166	7.0	17 2 14.26	2	3.557	20 31		5.00	
1908	*η* Ophiuchi		17 2 55.43	3	3.433	15 34		4.95	
1909	Lacaille 7160	6.0	17 3 21.07	1	4.110	38 40		4.91	
1910	Lalande 31199	6.8	17 3 21.38	4	3.556	20 29		4.91	
1911	B. A. C. 5791		17 4 16		3.680	25 5 27.1	1	4.83	
1912	Lacaille 7163		17 4 18.07	2	4.079	37 48		4.82	
1913	O. Arg. S. 16450		17 4 33		3.679	25 3 49.1	1	4.80	
1914	Weisse 46		17 4 50.43	2	3.174	4 29		4.78	
1915	O. Arg. S. 16477	9.0	17 5 50.99	3	3.648	23 54		4.69	
1916	Anonymous		17 6 26.74	1	+ 3.936	— 33 35		4.64	
1917	Schwerd 1014	7.0	17 6 51.14	1	— 3.198	+ 78 16 31.6	1	4.61	
1918	O. Arg. S. 16497	8.1	17 6 52.38	4	+ 3.649	— 23 54		4.61	
1919	O. Arg. S. 16503		17 7 13		3.827	30 6 47.0	1	4.58	
1920	A Ophiuchi, (1st *)	5.6	17 7 21.47	1	3.718	26 24		4.57	
1921	A Ophiuchi, (2d *)	6.2	17 7 21.60	1	3.718	26 24		4.57	
1922	B. A. C. 5809		17 7 36		3.826	30 3 27.5	1	4.54	
1923	B. A. C. 5813		17 8 14.06	1	3.717	— 26 21		4.49	
1924	Weisse 115		17 8 19.73	1	2.736	+ 14 27		4.48	
1925	Weisse 117	7.5	17 8 22.92	1	2.730	14 42		4.48	
1926	*α* Herculis, (1st *)		17 8 43.22	35	2.734	14 32 26.6	5	4.45	
1927	*α* Herculis, (2d *)		17 8 43.39	1	2.734	+ 14 32		4.45	
1928	B. A. C. 5820		17 9 5		3.826	— 30 1 2.7	1	4.42	
1929	O. Arg. S. 16573, (1st *)	7.5	17 10 5.08	1	3.657	24 8		4.34	
1930	O. Arg. S. 16573, (2d *)	6.3	17 10 5.09	1	3.657	24 8		4.34	
1931	Anonymous		17 10 6.02	2	3.980	34 50		4.34	
1932	B. A. C. 5831	5.8	17 10 10.79	1	3.652	23 56		4.33	
1933	Anonymous	9.0	17 10 46.70	1	3.166	4 6		4.28	
1934	O. Arg. S. 16600		17 11 39.37	1	3.623	22 51		4.20	
1935	Lacaille 7230	8.0	17 11 50.23	2	4.090	37 53		4.18	
1936	Weisse 186	7.6	17 12 5.18	4	3.167	4 10		4.17	
1937	*ξ* Ophiuchi	5.0	17 13 12.82	1	3.574	20 58		4.07	
1938	O. Arg. S. 16644	8.0	17 13 21.41	1	3.721	26 22		4.06	
1939	*ν* Serpentis	5.0	17 13 30.93	3	3.368	12 43		4.04	
1940	Lacaille 7241	7.0	17 13 47.34	3	4.084	37 41		4.01	
1941	*θ* Ophiuchi		17 14 1.63	3	3.679	24 52		4.00	
1942	Lacaille 7245		17 14 7		4.073	37 5 20.8	1	3.99	
1943	Anonymous	8.3	17 14 19.03	1	3.679	24 51		3.97	
1944	Weisse 249	8.3	17 15 32.61	3	3.178	4 37		3.87	
1945	B. A. C. 5862	6.5	17 16 8.44	3	+ 3.649	— 23 43		— 3.81	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1946	B. A. C. 5868	6.2	17 17 9.56	3	3.660	− 24 7		− 3.72	
1947	Anonymous		17 18 11		3.568	20 39 36.3	2	3.64	
1948	Anonymous	7.5	17 18 12.28	3	3.877	31 29		3.64	
1949	*b* Ophiuchi	4.0	17 18 25.94	13	3.961	34 3		3.62	
1950	B. A. C. 5892	7.2	17 20 17.07	2	+ 3.872	− 31 16		3.45	
1951	O. Arg. N. 17136	8.0	17 20 31.14	2	− 2.861	+ 77 29		3.44	
1952	O. Arg. S. 16842		17 20 0.94	1	+ 3.449	− 15 56		3.31	
1953	O. Arg. S. 16856		17 22 25.15	1	+ 3.448	− 15 55		3.28	
1954	O. Arg. N. 17168	9.3	17 22 59.69	2	− 2.938	+ 77 37		3.22	
1955	c^2 Ophiuchi	4.5	17 23 29.08	4	+ 3.656	− 23 52		3.18	
1956	O. Arg. S. 16875		17 23 20.80	1	3.448	15 53		3.11	
1957	B. A. C. 5923	7.0	17 26 12.88	2	3.913	32 27		2.95	
1958	Anonymous	8.8	17 26 15.97	3	3.873	31 12		2.94	
1959	Anonymous	9.0	17 26 36.73	1	4.126	38 33		2.91	
1960	O. Arg. S. 16952	7.2	17 26 57.30	1	3.505	− 18 8		2.88	
1961	β Draconis		17 27 29.61	1	1.353	+ 52 23 55.0	2	2.83	
1962	B. A. C. 5932	5.0	17 27 35.68	1	4.126	− 38 32		2.82	
1963	O. Arg. S. 16966	8.0	17 27 43.75	1	3.506	− 18 9		2.82	
1964	Weisse 508		17 28 0.14	3	2.776	+ 12 36		2.79	
1965	B. A. C. 5938	7.0	17 28 30.77	1	3.901	− 32 3		2.75	
1966	α Ophiuchi		17 28 54.02	35	2.775	+ 12 39 25.7	4	2.71	
1967	B. A. C. 5943		17 29 34		3.787	− 28 21 13.3	2	2.66	
1968	B. A. C. 5946		17 30 1		3.776	27 57 52.6	1	2.62	
1969	ξ Serpentis		17 30 8.64	2	3.435	15 19		2.60	
1970	B. A. C. 5952		17 30 49		3.787	28 19 49.3	1	2.55	
1971	Anonymous	7.1	17 31 32.68	3	3.906	32 9		2.48	
1972	B. A. C. 5960	6.8	17 31 34.10	3	3.905	32 7		2.48	
1973	B. A. C. 5961	6.7	17 32 8.96	3	3.804	28 51 25.0	1	2.43	
1974	Anonymous		17 32 15.17	1	3.905	32 6		2.42	
1975	B. A. C. 5964		17 32 30.16	3	3.906	32 9		2.40	
1976	B. A. C. 5966		17 32 32		3.773	27 49 7.3	1	2.40	
1977	Anonymous	8.0	17 33 9.96	1	3.905	32 5		2.34	
1978	*o* Serpentis		17 34 6.62	4	3.374	12 48		2.27	
1979	Anonymous	9.0	17 34 39.15	3	3.773	27 48		2.21	
1980	Anonymous	9.4	17 35 3.10	1	3.779	28 0		2.18	
1981	B. A. C. 5981	6.7	17 35 6.62	5	3.773	27 49		2.17	
1982	B. A. C. 5989		17 36 22		3.654	23 36 58.4	1	2.06	
1983	O. Arg. S. 17132	8.7	17 36 24.79	2	3.783	28 7		2.06	
1984	Weisse 697	8.6	17 36 56.54	4	3.258	7 57 47.6	3	2.01	
1985	O. Arg. S. 17152	8.9	17 37 11.76	2	3.779	27 59		1.99	
1986	Anonymous		17 37 19		3.254	7 48 35.6	2	1.98	
1987	O. Arg. S. 17157	9.2	17 37 19.81	2	3.780	28 0		1.98	
1988	Weisse 713	8.1	17 37 30.99	3	+ 3.254	− 7 47 46.1	2	1.97	
1989	ω Draconis		17 37 41		− 0.362	+ 68 49 3.1	2	1.95	
1990	3 Sagittarii	4.5	17 39 22.73	5	+ 3.774	− 27 47		1.80	
1991	Weisse 755	7.6	17 39 28.00	4	3.257	7 55 35.0	4	1.79	
1992	O. Arg. S. 17210		17 39 47		3.578	20 47 7.3	1	1.76	
1993	Weisse 779	8.6	17 40 5.22	3	3.260	8 1 12.7	3	1.74	
1994	B. A. C. 6016		17 40 44		3.894	− 31 39 17.8	1	1.68	
1995	γ Ophiuchi		17 41 22		3.008	+ 2 45 30.6	2	1.63	
1996	μ Herculis		17 41 22.29	11	2.369	+ 27 47 58.4	4	1.63	
1997	O. Arg. S. 17249		17 42 0		3.745	− 26 45 59.5	1	1.57	
1998	Anonymous	9.0	17 42 0.16	1	4.016	35 19		1.57	
1999	B. A. C. 6024		17 42 14		3.752	27 0 59.3	2	1.54	
2000	Anonymous	9.0	17 42 26.22	1	3.636	22 52		1.53	
2001	Anonymous		17 42 49		3.799	28 36 58.5	1	1.50	
2002	Anonymous		17 43 8.81	1	4.114	35 14		1.47	
2003	O. Arg. S. 17270	7.2	17 43 14.36	4	3.635	22 53		1.46	
2004	O. Arg. S. 17275	8.8	17 43 23.43	1	3.485	17 13		1.45	
2005	Anonymous		17 43 37		3.799	28 35 1.3	1	1.43	
2006	O. Arg. S. 17281	9.0	17 43 51.73	2	3.715	25 44		1.41	
2007	O. Arg. S. 17284	9.0	17 43 58.20	1	+ 3.715	− 25 45		1.40	
2008	ψ^1 Draconis		17 44 15		− 1.085	+ 72 12 44.2	1	1.38	
2009	O. Arg. S. 17320	7.4	17 45 33.62	4	+ 3.801	− 28 39		1.26	
2010	B. A. C. 6046	6.9	17 45 48.33	3	+ 3.987	− 34 26		− 1.24	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2011	Anonymous	6.9	17 46 8.73	3	+ 3.992	— 34 35		— 1.21	
2012	Anonymous	8.0	17 46 44.28	1	3.804	28 44		1.16	
2013	O. Arg. S. 17349		17 47 31		3.749	26 54 15.8	1	1.09	
2014	Anonymous	9.8	17 47 40.19	1	3.662	23 50		1.08	
2015	O. Arg. S. 17354	9.0	17 47 43.64	1	3.752	27 0		1.08	
2016	O. Arg. S. 17361	9.0	17 47 58.51	1	3.752	27 0		1.05	
2017	Anonymous	8.1	17 48 1.73	2	3.994	34 37		1.05	
2018	B. A. C. 6059		17 48 25		3.745	26 44 43.6	1	1.02	
2019	Lalande 32766	7.6	17 49 10.80	1	3.664	23 55		0.95	
2020	O. Arg. S. 17394		17 49 33.66	1	3.697	25 4		0.91	
2021	Anonymous	8.5	17 50 1.86	1	4.073	36 51		0.87	
2022	B. A. C. 6070	6.5	17 50 5.79	1	4.073	36 50		0.86	
2023	Anonymous		17 50 17		4.136	38 33 20.4	1	0.85	
2024	O. Arg. S. 17412	8.0	17 50 19.17	2	3.697	25 7		0.85	
2025	O. Arg. S. 17413	7.8	17 50 19.17	1	3.697	25 7		0.85	
2026	Lacaille 7516	7.0	17 50 23.20	1	4.076	36 56		0.84	
2027	B. A. C. 6072	6.0	17 50 24.16	2	3.804	28 44		0.84	
2028	O. Arg. S. 17419		17 50 44		3.747	— 26 48 40.5	2	0.81	
2029	Weisse (2) 1601		17 50 46		2.629	+ 18 20 52.9	2	0.81	
2030	O. Arg. S. 17426	7.8	17 51 0.65	2	+ 3.700	— 25 10		0.79	
2031	O. Arg. N. 17680	9.5	17 51 34.35	1	— 2.501	+ 76 31		0.74	
2032	O. Arg. S. 17443		17 51 44		+ 3.586	— 21 1 53.8	1	0.72	
2033	4 Sagittarii	4.9	17 51 51.38	7	3.661	23 48		0.71	
2034	O. Arg. S. 17447	8.0	17 51 53.29	1	3.699	25 9		0.71	
2035	O. Arg. S. 17449	8.5	17 51 58.97	1	3.697	25 4		0.70	
2036	B. A. C. 6081		17 52 16.05	1	3.567	20 20		0.68	
2037	Anonymous		17 52 37		4.119	38 4 21.4	2	0.64	
2038	Anonymous	8.0	17 53 15.03	3	3.655	— 23 33		0.59	
2039	γ Draconis		17 53 35.24	2	1.392	+ 51 30		0.56	
2040	O. Arg. S. 17509	7.5	17 54 38.70	4	3.637	— 22 54		0.47	
2041	O. Arg. S. 17510		17 54 40.78	1	3.674	24 15		0.47	
2042	Anonymous	7.6	17 54 51.17	5	3.599	21 30		0.45	
2043	7 Sagittarii		17 54 53.15	2	3.675	24 17		0.45	
2044	Anonymous	7.9	17 55 25.88	3	3.635	22 51		0.40	
2045	9 Sagittarii		17 55 54.07	2	3.677	24 22		0.36	
2046	O. Arg. S. 17540		17 55 58.78	2	3.676	— 24 19		0.35	
2047	95 Herculis, (1st *)		17 55 59		2.543	+ 21 35 51.9	1	0.35	
2048	95 Herculis, (2d *)		17 55 59		2.543	+ 21 35 52.6	1	0.35	
2049	Anonymous	6.9	17 56 3.07	3	3.635	— 22 50 14.7	1	0.35	
2050	O. Arg. S. 17555		17 56 27.51	1	3.678	24 23		0.31	
2051	O. Arg. S. 17560		17 56 29.84	1	3.677	— 24 22		0.30	
2052	Weisse 1174	8.0	17 56 54.44	1	3.013	+ 2 31		0.27	
2053	B. A. C. 6111		17 57 12.19	1	3.679	— 24 24		0.24	
2054	γ^2 Sagittarii		17 57 27.46	4	3.857	30 25		0.22	
2055	O. Arg. S. 17597		17 58 7.01	2	3.673	24 12		0.16	
2056	Anonymous	8.7	17 58 22.55	3	3.597	21 27		0.14	
2057	O. Arg. S. 17612		17 58 32.31	1	3.672	— 24 10		0.13	
2058	70 Ophiuchi, (1st *)	6.0	17 58 52.99	1	3.013	+ 2 32 0.3	1	0.10	
2059	70 Ophiuchi, (2d *)	7.2	17 58 53.34	1	3.013	+ 2 31 58.8	1	0.10	
2060	Lalande 33147	7.5	17 59 3.14	2	3.599	— 21 31		0.08	
2061	Lalande 33164	6.8	17 59 23.52	5	3.597	21 27		0.06	
2062	Anonymous	8.6	17 59 49.06	1	3.637	22 54		0.02	
2063	B. A. C. 6127		17 59 50.80	1	3.797	28 28		0.02	
2064	Anonymous	7.0	17 59 57.27	2	3.637	22 54		— 0.00	
2065	O. Arg. S. 17681		18 0 41		3.593	21 16 3.4	1	+ 0.06	
2066	Lalande 33210	6.5	18 0 50.72	4	3.776	27 45		0.07	
2067	Anonymous	8.0	18 1 7.88	2	3.596	21 24		0.10	
2068	Lacaille 7588		18 1 28.76	1	3.931	— 32 43		0.13	
2069	Anonymous	8.0	18 1 34.36	1	3.013	+ 2 32		0.14	
2070	Anonymous	7.2	18 1 36.81	1	3.013	+ 2 32		0.14	
2071	O. Arg. S. 17728		18 1 56		3.542	— 19 22 31.8	1	0.18	
2072	Weisse 18	8.0	18 2 56.02	1	3.012	+ 2 34		0.26	
2073	Anonymous		18 3 13.72	1	3.650	— 23 22		0.28	
2074	B. A. C. 6160		18 3 42		3.811	28 55 32.1	1	0.32	
2075	B. A. C. 6161		18 3 47 41	2	+ 3.660	— 23 43 29.6	1	+ 0.33	

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			h. m. s.		s.	° ′ ″		″	
2076	O. Arg. S. 17796		18 4 12.75	1	+ 3.571	— 20 27		+ 0.36	
2077	O. Arg. S. 17809	8.0	18 4 33.71	1	3.544	19 27 35.2	1	0.39	
2078	O. Arg. S. 17817	8.7	18 4 54.03	3	3.586	21 1		0.42	
2079	Anonymous	8.9	18 5 56.76	1	3.588	21 6		0.52	
2080	μ Sagittarii		18 5 59.33	23	3.588	21 6		0.52	
2081	Anonymous		18 6 2.53	1	3.587	21 5		0.53	
2082	O. Arg. S. 17871		18 6 27.36	1	3.605	21 45		0.56	
2083	O. Arg. S. 17892	8.0	18 7 21.03	3	3.532	18 59		0.64	
2084	O. Arg. S. 17905	8.0	18 7 37.38	3	3.533	19 2		0.67	
2085	O. Arg. S. 17916	8.3	18 7 48.70	3	3.531	18 58		0.68	
2086	O. Arg. S. 17928	8.3	18 8 5.87	2	3.532	19 0		0.71	
2087	Anonymous	8.6	18 8 7.23	3	3.531	18 58		0.71	
2088	Anonymous		18 8 46.35	2	3.531	18 58		0.77	
2089	O. Arg. S. 17955	7.0	18 8 50.66	2	3.574	20 35		0.77	
2090	B. A. C. 6190		18 9 9		3.803	28 41 35.3	2	0.80	
2091	B. A. C. 6191	7.0	18 9 9.32	1	3.792	28 20		0.80	
2092	Anonymous	9.0	18 9 13.11	1	3.522	18 37		0.80	
2093	O. Arg. S. 17965	7.7	18 9 19.18	3	3.532	19 1		0.82	
2094	O. Arg. S. 18000		18 10 20.16	1	3.526	18 45		0.90	
2095	O. Arg. S. 18015, (1st *)	7.5	18 11 5.12	1	3.523	18 40 2.3	1	0.97	
2096	O. Arg. S. 18015, (2d *)		18 11 6.18	1	3.523	18 40		0.97	
2097	Anonymous	8.0	18 12 47.10	1	3.795	28 25		1.12	
2098	18 Sagittarii		18 12 53.03	1	3.874	31 0		1.12	
2099	B. A. C. 6220		18 13 44		3.796	28 29 10.8	1	1.20	
2100	B. A. C. 6222		18 14 10		+ 3.638	— 22 58 41.7	1	1.24	
2101	δ Ursæ Minoris		18 14		—18.916	+ 86 36 20.8	4	1.25	
2102	δ Ursæ Minoris, S. P.		18 14		—18.916	+ 86 36 21.4	6	1.25	
2103	η Serpentis		18 14 34.95	2	+ 3.140	— 2 56		1.28	
2104	B. A. C. 6226	6.0	18 14 42.12	1	4.052	36 18		1.28	
2105	O. Arg. S. 18115, (1st *)		18 14 47.10	2	3.433	15 8 58.4	1	1.29	
2106	O. Arg, S. 18115, (2d *)		18 14 47.65	2	3.433	15 8 47.1	1	1.29	
2107	Anonymous		18 16 12		3.829	29 35 19.0	2	1.41	
2108	Dorpat 2313, (1st *)		18 17 43.86	2	3.228	6 40 8.4	3	1.54	Uncertain whether south'n or north'n star precedes.
2109	Dorpat 2313, (2d *)		18 17 43.96	2	3.228	6 40 15.6	1	1.55	
2110	O. Arg. S. 18198		18 17 52		3.575	21 6 20.6	1	1.56	
2111	B. A. C. 6249		18 18 20		3.858	30 27 44.9	1	1.59	
2112	Anonymous		18 18 49		3.828	29 34 49.9	2	1.65	
2113	B. A. C. 6267		18 20 21.41	1	3.502	17 53		1.78	
2114	Anonymous		18 20 28.53	1	3.501	— 17 52		1.79	
2115	d Serpentis, (1st *)	7.0	18 20 33.26	4	3.069	+ 0 7		1.80	
2116	d Serpentis, (2d *)	8.5	18 20 33.45	4	3.069	+ 0 7		1.80	
2117	Lacaille 7728		18 21 1.85	1	3.971	— 34 1		1.84	
2118	Weisse 473		18 21 10.79	1	3.069	+ 0 7		1.85	
2119	B. A. C. 6279	5.4	18 21 47.17	1	3.420	— 14 39		1.90	
2120	B. A. C. 6284	6.0	18 22 21.85	1	3.420	14 40		1.95	
2121	23 Sagittarii		18 22 35		3.646	23 20 1.9	1	1.98	
2122	O. Arg. S. 18314		18 23 10		3.599	21 36 44.2	1	2.02	
2123	O. Arg. S. 18317	7.0	18 23 26.38	1	3.648	23 24		2.05	
2124	B. A. C. 6292	7.5	18 23 41.50	2	3.530	18 59 17.0	1	2.07	
2125	B. A. C. 6301	7.0	18 24 50.18	2	3.531	19 4		2.17	
2126	Weisse 570	9.1	18 25 4.84	4	3.339	11 22 48.3	3	2.19	
2127	B. A. C. 6304	6.2	18 25 17.37	1	3.669	24 12		2.21	
2128	B. A. C. 6310	7.2	18 25 53.52	1	3.870	30 59		2.26	
2129	24 Sagittarii	5.8	18 25 56.94	3	3.667	24 8		2.27	
2130	Anonymous		18 26 1.70	1	3.870	30 59		2.27	
2131	O. Arg. S. 18395		18 26 28		3.494	17 37 57.7	2	2.31	
2132	B. A. C. 6319	7.4	18 27 24.59	1	3.830	30 3		2.39	
2133	1 Aquilæ		18 28 7.95	23	3.266	8 19 55.7	3	2.46	
2134	B. A. C. 6334	7.2	18 29 49.67	1	3.927	32 48		2.60	
2135	Weisse 696	9.0	18 30 13.71	5	3.373	12 41 18.7	3	2.63	
2136	B. A. C. 6343	5.5	18 30 36.20	2	3.651	23 37		2.67	
2137	B. A. C. 6346		18 31 9		3.642	23 17 32.5	1	2.72	
2137	Anonymous	9.0	18 31 25.22	1	3.372	12 45		2.74	
2139	O. Arg. S. 18505		18 31 46.72	1	3.707	25 37		2.77	
2140	O. Arg. S. 18506, (1st *)		18 31 50.27	1	+ 3.707	— 25 37		+ 2.78	

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			h. m. s.		s.	° ′ ″		″	
2141	O. Arg. S. 18506, (2d *)		18 31 50.65	1	+ 3.707	— 25 37		+ 2.78	
2142	*a* Lyræ		18 32 32.20	22	2.013	+ 38 39 49.4	27	2.83	
2143	Weisse 779	8.0	18 32 43.55	4	3.334	— 11 13 6.0	3	2.85	
2144	Weisse 792	9.0	18 33 18.41	5	3.373	12 49 11.1	3	2.90	
2145	26 Sagittarii	5.6	18 33 55.75	3	3.660	23 57		2.96	
2146	Anonymous		18 34 17		4.104	37 57 59.4	1	2.99	
2147	Anonymous		18 34 28		4.105	38 0 13.7	1	3.00	
2148	Anonymous	8.7	18 35 15.22	1	3.334	11 13		3.07	
2149	O. Arg. S. 18577	8.0	18 35 15.43	1	3.537	19 24		3.07	
2150	Weisse 874		18 36 17.50	2	3.340	11 27 44.3	3	3.16	
2151	Lacaille 7838	6.5	18 36 35.30	3	+ 4.031	— 35 59		3.19	
2152	O. Arg. N. 18534	8.0	18 36 36.63	1	— 1.066	+ 72 18		3.19	
2153	O. Arg. S. 18623		18 37 33		+ 3.582	— 21 7 50.8	1	3.27	
2154	O. Arg. S. 18625	7.5	18 37 33.26	2	+ 3.573	— 20 46 38.8	1	3.27	
2155	Lalande 35006	8.0	18 38 12.59	1	— 1.051	+ 72 16		3.32	
2156	B. A. C. 6376	6.0	18 38 20.52	2	+ 3.545	— 19 44		3.34	
2157	Lalande 35041	8.5	18 39 12.82	1	— 1.020	+ 72 9		3.41	
2158	Weisse 971	9.0	18 39 43.22	1	+ 3.362	— 12 25		3.46	
2159	O. Arg. S. 18672	5.4	18 40 9.59	1	3.562	20 25		3.50	
2160	Weisse 993	8.0	18 40 27.88	6	3.363	12 28 3.1	3	3.52	
2161	Anonymous	9.3	18 41 40.48	1	3.214	6 9		3.63	
2162	Weisse 1020	8.2	18 41 41.68	1	3.214	6 8 51.0	1	3.63	
2163	Lalande 34916	7.2	18 41 56.42	1	3.532	19 17		3.65	
2164	29 Sagittarii	5.2	18 41 57.20	3	3.563	20 28		3.65	
2165	Lacaille 7873		18 42 13		4.149	39 19 19.3	2	3.67	
2166	Lalande 34984	5.0	18 42 43.63	1	3.212	6 4		3.71	
2167	Lalande 34990	7.0	18 43 17.00	1	3.562	20 27		3.76	
2168	Lalande 35046	8.5	18 44 33.85	1	3.559	20 21		3.87	
2169	Lacaille 7901	7.3	18 45 2.54	3	4.041	— 36 27		3.91	
2170	*β* Lyræ		18 45 16.83	12	2.214	+ 33 12 49.2	2	3.93	
2171	ν^1 Sagittarii	5.0	18 46 19.11	2	3.625	— 22 54 7.6	1	3.94	
2172	Anonymous		18 46 24		3.624	22 50 41.2	1	4.03	
2173	*σ* Sagittarii		18 47 12.21	3	3.723	26 27		4.10	
2174	ν^2 Sagittarii	5.2	18 47 15.58	2	3.623	22 49 51.9	1	4.11	
2175	Anonymous		18 47 48		4.157	39 40 16.0	2	4.15	
2176	B. A. C. 6448		18 48 8.28	1	3.636	23 20		4.18	
2177	B. A. C. 6450		18 48 41.88	1	3.635	23 19		4.23	
2178	Weisse 1219	9.6	18 48 57.39	3	3.292	— 9 33		4.25	
2179	*θ* Serpentis, (1st *)		18 49 45.32	1	2.980	+ 4 2 12.7	3	4.32	
2180	*θ* Serpentis, (2d *)		18 49 46.83	1	2.980	+ 4 2 7.7	3	4.32	
2181	O. Arg. S. 18878	8.6	18 49 51.47	1	3.581	— 21 19		4.33	
2182	Lacaille 7932		18 50 13		+ 4.156	— 39 42 16.2	1	4.36	
2183	50 Draconis		18 50 33		— 1.894	+ 75 16 45.8	2	4.39	
2184	Weisse 1277		18 51 10		+ 3.290	— 9 28 47.2:	1	4.44	
2185	Weisse 1285	7.4	18 51 43.65	3	3.367	12 46		4.49	
2186	O. Arg. S. 18913		18 51 44.90	2	3.532	19 27		4.49	
2187	Weisse 1314	8.4	18 52 52.89	5	+ 3.367	12 46 49.8	3	4.59	
2188	O. Arg. S. 18953	7.0	18 53 25.74	1	— 3.534	19 32		4.63	
2189	Weisse 1333	8.5	18 53 28.23	1	+ 3.245	7 34		4.64	
2190	Weisse 1334		18 53 29		3.262	8 17 44.9	2	4.64	
2191	Weisse 1335		18 53 29		3.261	8 17 12.8	2	4.64	
2192	Anonymous		18 53 43		4.106	38 27 58.5	2	4.65	
2193	B. A. C. 6485	6.5	18 53 47.49	2	3.620	22 52		4.66	
2194	Lacaille 7962		18 54 23		4.104	38 26 15.6	3	4.71	
2195	Lalande 35497		18 55 25.11	2	3.530	19 26		4.80	
2196	Lalande 35499	6.0	18 55 28.82	4	3.526	19 17		4.81	
2197	Anonymous		18 55 39.88	2	3.243	7 30		4.82	
2198	Anonymous	9.5	18 55 49.96	2	3.243	7 30		4.84	
2199	Weisse 1398	9.0	18 56 1.89	6	+ 3.244	— 7 31 56.6	3	4.85	
2200	*υ* Draconis		18 56 2		— 0.722	+ 71 7 22.5	2	4.85	
2201	Dorpat 2434, (1st *)	8.0	18 56 2.73	2	+ 3.092	— 0 54		4.85	
2202	Dorpat 2434, (2d *)	8.3	18 56 3.86	2	3.092	0 54		4.85	
2203	O. Arg. S. 19007	9.0	18 56 26.68	1	3.569	20 59		4.89	
2204	Weisse 1412	8.6	18 56 27.92	5	3.244	7 33 3.0	3	4.89	
2205	*o* Sagittarii		18 56 53.50	1	+ 3.594	— 21 56		+ 4.92	

Number.	Name.	Magnitude.	Right ascensions; 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2206	Weisse 1480		18 58 47		+ 3.279	— 9 5 54.3	2	+ 5.09	
2207	O. Arg. S. 19083, (S. *)	9.2	18 59 23.58	2	3.453	16 26		5.13	
2208	O. Arg. S. 19083, (N. *)	7.2	18 59 23.60	1	3.453	— 16 26		5.13	
2209	ζ Aquilæ		18 59 26.10	18	2.758	+ 13 40		5.14	
2210	* — 1° 30′		18 59 31.51	1	3.117	— 1 32		5.15	
2211	Anonymous	6.6	18 59 31.73	3	3.516	— 18 57		5.15	
2212	Weisse 1525	9.2	18 59 51.73	1	2.758	+ 13 39		5.18	
2213	Anonymous	9.2	19 0 1.20	1	3.515	— 18 57		5.19	
2214	Weisse 1539		19 0 20.48	1	2.759	+ 13 38		5.22	
2215	* — 1° 30′		19 0 43.38	1	3.107	— 1 32		5.25	
2216	β Coronæ Australis		19 1 4		4.137	39 32 38.7	2	5.28	
2217	π Sagittarii		19 2 1.87	3	+ 3.573	— 21 14		5.36	
2218	O. Arg. N. 18967		19 3 9		— 0.324	+ 69 14 52.4	1	5.46	
2219	Lacaille 8023	7.5	19 3 16.72	1	+ 3.926	— 33 34		5.47	
2220	Anonymous	8.8	19 3 32.43	2	3.254	8 3		5.49	
2221	Anonymous	8.2	19 3 36.42	1	+ 3.629	— 23 25		5.50	
2222	O. Arg. N. 18980		19 3 44		— 0.297	+ 69 6 29.0	1	5.50	
2223	Anonymous	8.0	19 4 12.11	2	+ 3.255	— 8 6		5.54	
2224	Anonymous		19 5 3.45	1	3.256	8 10		5.61	
2225	20 Aquilæ	5.0	19 5 37.59	3	3.256	8 9 14.8	3	5.66	
2226	O. Arg. S. 19256	7.5	19 5 50.04	3	3.611	22 47		5.68	
2227	B. A. C. 6565		19 5 54		3.728	27 5 25.1	1	5.69	
2228	Lacaille 8045	7.0	19 7 16.95	1	3.928	33 45 8.1	2	5.80	
2229	Anonymous	8.0	19 7 19.79	1	3.927	33 42		5.81	
2230	Lacaille 8051	6.5	19 8 3.12	1	3.926	33 44 49.8	2	5.87	
2231	Weisse 187		19 9 10		3.272	8 54 56.9	2	5.96	
2232	δ Sagittarii	5.0	19 10 1.64	6	3.516	— 19 11		6.03	
2233	Weisse 224		19 10 37.96	1	3.053	+ 0 50		6.08	
2234	ω Aquilæ		19 11 42.81	2	2.816	11 22		6.17	
2235	23 Aquilæ, (1st *)	5.5	19 11 55.56	2	3.053	0 51 3.3	2	6.19	
2236	23 Aquilæ, (2d *)	8.3	19 11 55.63	1	3.053	0 51		6.19	
2237	δ Draconis		19 12 31		0.014	+ 67 25 59.5	4	6.24	
2238	B. A. C. 6607		19 12 50		3.602	— 22 38 29.5	3	6.27	
2239	Dorpat 2497, (N. *)		19 13 37.23	1	2.953	+ 5 21		6.33	
2240	Dorpat 2497, (S. *)		19 13 37.30	1	2.953	+ 5 21		6.33	
2241	O. Arg. S. 19418	7.9	19 13 43.78	4	3.702	— 26 24		6.34	
2242	O. Arg. S. 19423	8.5	19 13 53.79	4	3.702	26 25		6.35	
2243	ρ^1 Sagittarii		19 14 8.00	2	3.486	18 5		6.37	
2244	Weisse 341		19 15 11		3.182	4 58 49.7	2	6.46	
2245	Lacaille 8092	7.0	19 15 33.02	1	3.919	33 48		6.49	
2246	Anonymous		19 16 5		3.942	34 32 4.4	1	6.54	
2247	Anonymous		19 16 42		3.619	23 25 21.2	3	6.58	
2248	Anonymous	8.2	19 16 48.44	1	3.259	8 26		6.60	
2249	Anonymous		19 17 20		3.944	34 39 30.6	2	6.64	
2250	Anonymous		19 17 49		3.617	23 23 24.1	3	6.68	
2251	Anonymous		19 18 1.91	1	+ 3.252	— 8 8		6.70	
2252	τ Draconis, S. P.		19 18 4		— 1.080	+ 73 6 46.4	1	6.70	
2253	2 Sagittæ		19 18 32		+ 2.694	16 41 9.4:	1	6.74	
2254	3 Sagittæ		19 18 55		2.694	16 42 16.4	1	6.77	
2255	δ Aquilæ		18 18 56.60	4	3.009	+ 2 51		6.77	
2256	O. Arg. S. 19575	8.1	19 20 14.53	3	3.609	— 23 8		6.88	
2257	Anonymous		19 21 14		4.109	39 34 57.0	2	6.96	
2258	Anonymous		19 21 52		3.866	32 21 20.8	1	7.01	
2259	Anonymous		19 23 10.19	1	3.613	23 23 33.9	1	7.12	
2260	Anonymous	8.0	19 23 52.66	1	3.611	23 22 6.9	1	7.17	
2261	O. Arg. S. 19674	7.7	19 24 37.17	5	3.602	23 1		7.24	
2262	B. A. C. 6685	8.0	19 24 54.62	2	3.688	26 18		7.26	
2263	O. Arg. S. 19709	8.5	19 26 22.65	1	3.717	27 26		7.38	
2264	O. Arg. S. 19713	9.0	19 26 30.58	1	3.717	27 26		7.39	
2265	O. Arg. S. 19715		19 26 33		3.521	19 50 53.2	1	7.39	
2266	O. Arg. S. 19732		19 27 42		3.520	19 51 37.3	1	7.49	
2267	Anonymous	8.0	19 27 47.08	2	3.759	28 58		7.50	
2268	O. Arg. S. 19737	7.8	19 27 55.48	4	3.758	28 57		7.51	
2269	O. Arg. S. 19746	7.3	19 28 18.11	4	3.758	28 57		7.54	
2270	Anonymous		19 29 18.70	2	+ 4.075	— 39 2		+ 7.62	

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2271	κ Aquilæ		19 29 53.78	3	+ 3.231	— 7 18 49.5	3	+ 7.66	
2272	Lacaille 8170	8.0	19 30 23.44	1	4.177	41 50		7.70	
2273	Lalande 37221		19 32 12		3.578	22 21 24.8	1	7.85	
2274	Anonymous	9.3	19 32 48.02	1	3.637	24 42		7.90	
2275	Anonymous	8.2	19 33 15.36	5	3.618	23 59		7.94	
2276	ϵ^1 Sagittarii		19 33 19		3.438	16 35 19.4	2	7.94	
2277	Lacaille 8186		19 33 32		3.995	36 55 51.0	1	7.96	
2278	Anonymous	8.2	19 33 52.31	5	3.618	23 59		7.98	
2279	Anonymous	8.6	19 34 22.10	2	3.617	23 58		8.02	
2280	O. Arg. S. 19880	7.3	19 34 45.49	1	3.635	24 40 48.9	1	8.06	
2281	ϵ^2 Sagittarii		19 35 4.83	2	3.433	— 16 26		8.08	
2282	Anonymous	9.0	19 36 28.48	1	2.947	+ 5 51		8.19	
2283	Anonymous	7.8	19 36 46.11	1	3.594	— 23 9 47.8	1	8.22	
2284	O. Arg. S. 19909		19 36 52.85	1	3.604	— 23 34 13.5	1	8.22	
2285	Dorpat 2566	9.5	19 37 49.58	2	2.973	+ 4 40		8.30	
2286	f Sagittarii		19 38 46.59	4	3.516	— 20 4 15.1	1	8.38	
2287	γ Aquilæ		19 40 4.73	15	2.852	+ 10 17 54.2	5	8.48	
2288	Anonymous	7.6	19 41 58.62	1	3.292	— 10 19		8.63	
2289	O. Arg. N. 19614		19 42 1		1.126	+ 58 11 45.1	2	8.64	
2290	(* 119) W.	9.2	19 42 3.54	1	1.108	+ 58 26		8.64	
2291	O. Arg. S. 19987	8.2	19 42 7.77	2	3.611	— 24 3		8.64	
2292	Weisse 1068	7.0	19 43 8.03	3	3.378	— 14 15		8.72	
2293	α Aquilæ		19 44 26.38	19	2.892	+ 8 31 36.8	2	8.83	
2294	Weisse 1150	7.6	19 46 23.62	3	3.381	— 14 30 30.0	1	8.98	11″ greater than Weisse.
2295	Weisse 1660	9.0	19 46 43.98	1	3.374	14 11		9.00	
2296	56 Aquilæ		19 47 9		3.259	8 54 34.1	2	9.04	
2297	Lacaille 8263		19 47 28.82	1	4.026	38 40		9.07	
2298	57 Aquilæ, (1st *)	7.0	19 47 35.33	1	3.252	8 33 49.1	2	9.07	
2299	57 Aquilæ, (2d *)	7.0	19 47 35.70	1	3.252	8 34 24.8	2	9.07	
2300	Weisse 1187	7.6	19 47 47.57	3	+ 3.372	— 14 7		9.09	
2301	ϵ Draconis		19 48 36		— 0.190	+ 69 56 10.8	2	9.11	
2302	Weisse 1208		19 48 38		+ 3.263	— 9 5 27.7	2	9.16	
2303	β Aquilæ		19 48 55.62	11	2.946	+ 6 5		9.18	
2304	Weisse 1236	9.0	19 49 55.47	2	3.038	1 37		9.26	
2305	Dorpat 2601	8.3	19 50 15.67	4	3.039	+ 1 34 35.3		9.28	
2306	Lacaille 8298		19 52 30		4.027	— 39 1 37.5	1	9.45	
2307	Lacaille 8300		19 52 30		4.025	38 56 15.7	1	9.45	
2308	Anonymous	9.0	19 52 53.40	1	3.575	23 8		9.48	
2309	O. Arg. S. 20145	8.2	19 53 4.79	1	3.571	22 59		9.50	
2310	B. A. C. 6864	7.8	19 53 40.18	1	3.574	23 6		9.54	
2311	Weisse 1319		19 53 48.81	1	3.372	14 18		9.56	
2312	O. Arg. S. 20160		19 54 6		+ 3.436	17 13 19.7	2	9.58	
2313	λ Ursæ Minoris		19 54		—59.239	+ 88 55 4.2	1	9.59	
2314	λ Ursæ Minoris, S. P.		19 54		—59.239	+ 88 55 2.9	1	9.59	
2315	Lalande 38164		19 54 30		+ 3.487	— 19 27 21.4	1	9.61	
2316	Dorpat 2612, (1st *)	8.3	19 55 1.55	2	2.936	+ 6 35 28.0	1	9.65	
2317	Dorpat 2612, (2d *)		19 55 3.59	2	2.936	6 35 50.3	1	9.65	
2318	Dorpat 2613, (1st *)		19 55 14.55	3	2.857	10 23 24.1	2	9.66	
2319	Dorpat 2613, (2d *)		19 55 14.60	3	2.857	10 23 28.9	2	9.66	
2320	Weisse 1394	7.0	19 55 58.88	1	2.858	10 22 47.2	1	9.72	
2321	B. A. C. 6886		19 57 17		3.840	— 33 21 54.9	3	9.82	
2322	τ Aquilæ		19 57 47.37	2	2.931	+ 6 55		9.86	
2323	O. Arg. S. 20217		19 57 57		3.422	— 16 44 21.3	2	9.87	
2324	Anonymous		19 59 39		4.016	39 10 24.2	1	10.00	
2325	O. Arg. S. 20246		19 59 54		3.594	24 15 14.6	2	10.02	
2326	Weisse 1512	7.0	20 1 17.54	1	3.374	14 38		10.12	
2327	O. Arg. S. 20287		20 3 43		3.597	24 36 30.7:	1	10.31	
2328	O. Arg. S. 20294	9.0	20 3 48.89	6	3.449	18 12 10.4	3	10.31	
2329	Weisse 46		20 4 8		3.258	9 13 28.4	1	10.34	Differs 9″ from Weisse.
2330	O. Arg. S. 20311	7.2	20 5 11.49	1	3.566	23 22		10.42	
2331	Weisse 81		30 5 31.31	1	3.360	14 10		10.44	
2332	O. Arg. S. 20320	7.8	20 5 50.58	5	3.426	17 16 4.5	3	10.47	
2333	Anonymous		20 5 55.57	1	3.426	17 16		10.47	
2334	Weisse 104		20 6 1		3.139	3 22 59.4	2	10.48	
2335	Weisse 122		20 6 53.38	3	+ 3.356	— 14 2		+ 10.55	

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2336	O. Arg. S. 20343		20 7 48		+ 3.424	— 17 14 36.2	1	+ 10.62	
2337	Anonymous		20 7 50		3.591	24 35 20.4	1	10.62	
2338	Anonymous		20 8 26.80	4	3.582	24 13 45.5	1	10.66	
2339	Anonymous		20 10 8.37	1	3.581	— 24 19		10.79	
2340	33 Cygni		20 10 22	1	1.391	+ 56 10 14.1	1	10.80	
2341	a^1 Capricorni		20 10 26.31	1	3.331	— 12 57		10.84	
2342	a^2 Capricorni		20 10 50.38	14	3.331	12 56 44.3	2	10.84	
2343	Lacaille 8399		20 10 58		3.806	33 8 3.0	2	10.85	
2344	O. Arg. S. 20384		20 11 12		3.579	24 17 48.7	2	10.86	
2345	Lacaille 8414		20 13 0		3.802	33 8 43.0	2	11.00	
2346	O. Arg. S. 20423	7.8	20 13 31.26	4	3.418	17 14 12.3	2	11.03	
2347	O. Arg. S. 20442	7.6	20 14 52.73	5	3.392	16 2 10.4	3	11.13	
2348	Anonymous		20 14 52		3.807	33 27 40.7	1	11.13	
2349	O. Arg. S. 20443		20 14 58		3.538	22 45 23.6	1	11.14	
2350	Anonymous	9.0	20 15 17.57	4	3.391	16 1		11.16	
2351	Anonymous	8.0	20 19 32.66	1	3.470	19 55		11.47	
2352	π Capricorni		20 19 52.61	4	3.442	18 38		11.49	
2353	ρ Capricorni		20 21 26.53	1	3.431	18 14		11.60	
2354	B. A. C. 7044		20 21 35.00	1	3.433	18 18		11.62	
2355	B. A. C. 7063	6.0	20 23 47.18	4	3.372	15 29 18.3	3	11.78	
2356	Anonymous	9.1	20 24 24.63	3	3.371	15 29		11.82	
2357	O. Arg. S. 20595	9.0	20 25 43.29	1	3.371	15 30 59.4	3	11.91	
2358	Lacaille 8492		20 26 44		3.714	— 30 54 55.1	1	11.98	
2359	ε Delphini		20 27 0.15	2	2.866	+ 10 52		12.00	
2360	B. A. C. 7111	7.5	20 30 7.20	4	3.520	— 22 53 37.5	1	12.22	
2361	Anonymous		20 31 0		3.776	33 37 46.3	2	12.28	
2362	τ^2 Capricorni		20 31 59		3.363	— 15 24 31.2	1	12.35	
2363	B. A. C. 7146		20 33 3		2.783	+ 15 23 0.5	1	12.42	
2364	α Delphini		20 33 36		2.782	+ 15 27 18.8	2	12.46	
2365	Anonymous		20 33 54		3.240	— 9 5 48.4	1	12.48	
2366	Anonymous	8.2	20 35 13.68	1	2.037	+ 44 49		12.57	
2367	O. Arg. S. 20765	8.5	20 35 52.14	1	3.560	— 25 9		12.61	
2368	α Cygni		20 37 0.00	11	2.043	+ 44 48 59.7	2	12.69	
2369	O. Arg. S. 20827	7.5	20 38 50.11	1	3.560	— 25 23		12.82	
2370	γ Delphini, (1st *)		20 40 38		2.786	+ 15 39 28.3	1	12.93	
2371	γ Delphini, (2d *)		20 40 38		2.786	+ 15 39 28.2	1	12.93	
2372	Anonymous		20 40 38		3.781	— 33 35 56.3	2	12.93	
2373	ϵ Aquarii		20 40 38.21	4	3.252	9 58		12.93	
2374	Anonymous	7.8	20 40 41.36	2	3.511	23 14		12.94	
2375	B. A. C. 7197	7.0	20 40 46.26	4	3.510	23 12		12.94	
2376	B. A. C. 7205		20 41 33		3.574	26 15 31.0	1	12.99	
2377	Weisse 1125	7.8	20 44 55.97	1	3.241	9 32		13.22	
2378	O. Arg. S. 20917	7.3	20 45 16.14	1	3.534	24 42		13.24	
2379	μ Aquarii		20 45 38.43	9	3.239	9 28 8.4	2	13.27	
2380	B. A. C. 7244	6.5	20 46 22.78	1	5.533	24 46 8.9	1	13.31	
2381	Anonymous	8.3	20 47 40.86	1	3.531	— 24 44		13.40	
2382	57 Cygni		20 48 41		2.018	+ 43 53 45.9	1	13.46	
2383	32 Vulpeculæ		20 49 1.10	1	2.555	+ 27 34		13.49	
2384	Anonymous	9.6	20 51 18.54	2	3.422	— 19 37		13.63	
2385	Piazzi 401		20 51 24		2.029	+ 43 52 34.5	2	13.64	
2386	Anonymous	9.5	20 51 35.00	2	3.422	— 19 38		13.65	
2387	Lacaille 8630		20 51 46.70	1	3.800	36 38		13.67	
2388	Anonymous	9.4	20 51 53.15	1	3.421	19 39		13.67	
2389	20 Capricorni	5.8	20 52 12.77	1	3.419	— 19 32		13.69	
2390	ν Cygni		20 52 19.71	1	2.233	+ 40 40		13.70	
2391	Lacaille 8635		20 52 41.54	1	+ 3.796	— 36 34		13.72	
2392	76 Draconis, S. P.		20 52 51		— 3.933	+ 82 2 52.9	1	13.73	
2393	B. A. C. 7299, S. P.		20 53 25		— 2.478	+ 80 3 46.7	1	13.77	
2394	Lacaille 8641	7.0	20 53 37.93	1	+ 3.806	— 37 5		13.78	
2395	B. A. C. 7290		20 53 43		2.035	+ 43 58 0.1	1	13.79	
2396	ζ Microscopii		20 54 39		3.859	— 39 8 10.8	2	13.85	
2397	O. Arg. S. 21053	6.5	20 55 21.69	1	3.418	19 45 29.3	1	13.89	
2398	B. A. C. 7312		20 57 33		3.376	17 40 40.2	2	14.03	
2399	Anonymous		20 58 7.50	1	3.814	37 53		14.06	
2400	θ Capricorni		20 58 37		+ 3.376	— 17 44 52.1	2	+ 14.10	

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			h. m. s.		s.	° ′ ″		″	
2401	Anonymous		20 59 30.48	1	+ 3.483	— 23 25		+ 14.15	
2402	A Capricorni	4.0	20 59 31.15	1	3.524	25 31		14.15	
2403	O. Arg. S. 21129		21 0 29		3.470	22 51 18.2	1	14.21	
2404	Anonymous	9.0	21 0 57.67	1	3.841	39 13		14.24	
2405	O. Arg. S. 21138		21 0 58		3.364	— 17 14 51.6	1	14.24	
2406	61 Cygni, (1st *)		21 1 2.71	1	2.334	+ 38 6		14.24	
2407	61 Cygni, (2d *)		21 1 4.17	1	2.334	+ 38 6		14.25	
2408	O. Arg. S. 21148	8.6	21 1 18.19	1	3.480	— 23 27		14.26	
2409	O. Arg. S. 21154	8.0	21 2 10.20	1	3.472	23 9		14.32	
2410	O. Arg. S. 21162	7.8	21 2 29.54	4	3.470	23 3		14.34	
2411	B. A. C. 7347	6.8	21 3 0.92	2	3.468	23 0		14.37	
2412	Anonymous	7.0	21 3 8.14	3	3.484	23 51		14.38	
2413	O. Arg. S. 21189, (1st *)		21 4 3.49	1	3.478	23 38		14.43	
2414	O. Arg. S. 21189, (2d *)		21 4 3.91	1	3.478	23 38		14.43	
2415	O. Arg. S. 21196		21 4 29.35	1	3.497	24 39		14.46	
2416	3 Piscis Australis		21 5 37		3.565	28 8 51.2	1	14 52	
2417	O. Arg. S. 21219		21 5 55.67	2	3.469	— 23 18		14.54	
2418	ζ Cygni		21 7 24.25	10	2.550	+ 29 42		14.63	
2419	Weisse (2) 137	8.0	21 7 24.99	1	2.745	+ 19 42		14.63	
2420	φ Capricorni	6.0:	21 8 13.74	1	3.425	— 21 11		14.68	
2421	Anonymous	8.0	21 10 9.14	1	3.438	22 4		14.80	
2422	O. Arg. S. 21285		21 11 10.04	1	3.533	27 9		14.86	
2423	O. Arg. S. 21286		21 11 13.11	1	3.576	29 18		14.86	
2424	Weisse 239	7.8	21 12 13.69	1	3.288	— 13 36		14.92	
2425	Weisse (2) 310	8.2	21 14 7.08	1	2.765	+ 19 8		15.03	
2426	Weisse (2) 325	7.5	21 14 38.17	1	2.763	+ 19 17		15.06	
2427	Anonymous	8.2	21 14 49.33	3	3.451	— 23 16		15.07	
2428	α Cephei		21 15 28.46	2	1.415	+ 62 2 8.4	5	15.10	
2429	B. A. C. 7413	5.6	21 15 33.03	2	3.459	— 23 13		15.11	
2430	1 Pegasi		21 16 4.49	3	2.766	+ 19 15		15.14	
2431	Lalande 41554	8.0	21 16 37.79	1	2.524	+ 32 4		15.18	
2432	O. Arg. S. 21355		21 16 46.16	1	3.464	— 24 11		15.18	
2433	Anonymous	9.3	21 18 42.54	3	3.439	23 0		15.29	
2434	Anonymous		21 18 49		3.428	22 23 21.9	1	15.30	
2435	ζ Capricorni	4.3	21 19 14.54	5	3.438	22 58		15.32	
2436	Anonymous	8.0	21 19 54.65	3	3.383	19 54		15.36	
2437	Weisse 453	8.0	21 20 35.64	1	3.258	12 14		15.40	
2438	Weisse 465	7.2	21 21 11.43	1	3.256	12 8		15.43	
2439	b Capricorni		21 21 17		3.423	22 22 14.7	1	15.44	
2440	Weisse 506	9.0	21 23 1.81	3	3.208	9 10 8.5	3	15.53	
2441	Lacaille 8834		21 23 9		3.489	26 16 43.2	1	15.54	
2442	Weisse 522	7.2	21 23 32.96	1	3.296	— 14 52		15.56	
2443	O. Arg. N. 22321, S. P.		21 23 40		0.819	+ 69 54 45.5	1	15.57	
2444	O. Arg. S. 21438		21 24 3.09	1	3.377	— 19 54		15.59	
2445	O. Arg. S. 21442	7.5	21 24 7.40	3	3.375	19 48		15.59	
2446	Weisse 543	9.8	21 24 31.36	3	3.210	9 18 46.3	4	15.61	
2447	β Aquarii		21 24 42.85	10	3.162	6 9		15.62	
2448	Anonymous		21 24 48.91	1	3.454	24 29		15.63	
2449	Anonymous		21 24 48.95	2	3.439	23 39		15.63	
2450	Lalande 41870	8.2	21 25 18.52	1	3.262	— 12 50		15.66	
2451	β Cephei		21 26 58.37	9	0.798	+ 69 59		15.75	
2452	β Cephei, S. P.		21 26 58.20	1	0.798	+ 69 59 24.3	2	15.75	
2453	Lacaille 8849		21 27 10		3.555	— 30 16 19.3	1	15.76	
2454	O. Arg. S. 21480	8.7	21 27 25.87	4	3.296	15 12 18.7	2	15.77	
2455	Weisse 623	8.8	21 27 30.07	3	3.200	8 47 18.0	3	15.78	
2456	B. A. C. 7490		21 27 32.81	2	3.383	20 39 43.6	4	15.78	
2457	Weisse 628	8.4	21 27 41.13	3	3.199	8 44		15.79	
2458	Anonymous	9.2	21 27 49.52	1	3.198	8 43		15.79	
2459	Anonymous	9.2	21 28 5.81	1	3.296	15 13		15.81	
2460	7 Piscis Australis		21 29 0		3.616	33 37 37.9	1	15.86	
2461	ε Capricorni	4.8	21 29 47.94	2	3.369	20 3		15.90	
2462	Weisse 685	8.2	21 29 56.11	1	3.227	10 46		15.91	
2463	Anonymous		21 30 12.78	1	3.192	8 24		15.92	
2464	ξ Aquarii		21 30 49.77	3	3.192	8 26		15.96	
2465	Weisse 739	8.0	21 32 9.61	3	+ 3.282	— 14 38 36.6	2	+ 16.03	

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			h. m. s.		s.	° ′ ″		″	
2466	O. Arg. S. 21550		21 32 40.95	3	+ 3.377	— 20 48 31.9	3	+ 16.05	
2467	O. Arg. S. 21562		21 34 8		3.401	22 31 1.3	2	16.13	
2468	Lacaille 8890		21 34 16		3.454	25 41 28.3	1	16.14	
2469	42 Capricorni		21 34 28.68	1	3.279	14 37 33.8	1	16.15	
2470	B. A. C. 7536	6.5	21 34 29.42	1	3.374	20 24		16.15	
2471	B. A. C. 7550	6.2	21 35 56.99	5	3.362	— 20 13		16.23	
2472	O. Arg. N. 22729, S. P.		21 37 20		0.843	+ 70 43 20.3	1	16.29	
2473	Weisse 896	8.0	21 37 42.22	1	2.944	9 19		16.31	
2474	ϵ Pegasi		21 37 48.08	22	2.945	+ 9 16 50.6	5	16.32	
2475	Lacaille 8907		21 37 54		3.498	— 28 43 19.4	1	16.32	
2476	ϵ^2 Capricorni		21 39 20.07	1	3.206	9 53		16.40	
2477	Weisse 933		21 39 41.44	3	3.239	— 12 17 29.8	3	16.41	
2478	11 Cephei		21 40 0		0.880	+ 70 42 47.0	2	16.43	
2479	11 Cephei, S. P.		21 40 0		0.880	+ 70 42 47.5	1	16.43	
2480	Anonymous		21 40 19.01	1	3.238	— 12 16		16.44	
2481	Anonymous	9.4	21 40 24.30	2	3.089	1 14 40.0	2	16.45	
2482	Anonymous	9.3	21 40 33.79	1	3.087	— 1 9		16.46	
2483	27 Aquarii	6.0	21 40 38.43	3	3.044	+ 2 5 11.1	2	16.46	
2484	Anonymous	9.5	21 40 39.82	1	3.087	— 1 9		16.46	
2485	Anonymous	9.0	21 41 36.76	3	3.050	+ 1 41 27.5	2	16.51	
2486	Lacaille 8934		21 42 21		3.474	— 28 0 26.3	1	16.54	
2487	Anonymous	9.2	21 42 21.67	1	3.044	+ 2 6		16.54	
2488	Weisse 988	8.1	21 42 23.66	2	3.263	— 14 12		16.55	
2489	Anonymous	7.5	21 43 3.46	1	3.237	12 21		16.58	
2490	Weisse 1002		21 43 4.85	3	3.235	— 12 12 41.6	3	16.58	
2491	Anonymous	9.0	21 43 27.14	3	3.045	+ 2 5 14.5	2	16.60	
2492	Anonymous	9.5	21 43 31.09	2	3.043	+ 2 12		16.60	
2493	Weisse 1033	8.2	21 44 31.61	1	3.259	— 14 6		16.65	
2494	Weisse 1037	8.6	21 44 35.63	3	3.039	+ 2 29 59.9	2	16.66	
2495	Anonymous		21 46 5.04	2	3.165	— 7 9		16.73	
2496	μ Capricorni		21 46 12.36	6	3.258	— 14 10		16.73	
2497	Anonymous	9.8	21 46 25.69	1	3.032	+ 3 5		16.74	
2498	Weisse 1085		21 47 6.58	2	3.164	— 7 7 32.3	3	16.78	
2499	Weisse 1087	8.6	21 47 17.62	3	3.227	11 58 32.0	4	16.79	
2500	Anonymous	9.2	21 47 23.40	2	3.227	— 11 58		16.79	
2501	Anonymous	9.5	21 47 58.65	1	3.032	+ 3 8 22.2	2	16.82	
2502	Weisse 1106	8.0	21 48 1.91	5	3.235	— 12 34 59.7	3	16.82	
2503	B. A. C. 7632		21 48 30		3.636	37 52 4.0	1	16.84	
2504	B. A. C. 7649	6.0	21 51 28.50	2	3.356	21 48		16.98	
2505	O. Arg. S. 21772	8.8	21 51 52.27	2	3.395	24 30		17.00	
2506	O. Arg. S. 21774	7.2	21 51 57.62	2	3.394	24 27		17.01	
2507	Lacaille 8981		21 51 58		3.476	29 40 33.2	1	17.01	
2508	Anonymous	9.2	21 53 12.10	1	3.229	12 37		17.06	
2509	O. Arg. S. 21836	8.2	21 56 29.92	1	3.399	25 27		17.21	
2510	O. Arg. S. 21837	8.2	21 56 30.54	1	3.399	25 28		17.21	
2511	Lacaille 9012		21 57 9		3.452	29 3 51.2	1	17.24	
2512	λ Gruis		21 58 15		3.644	40 10 9.9	1	17.29	
2513	α Aquarii		21 59 6.37	10	3.083	0 57		17.33	
2514	O. Arg. S. 21896	7.8	22 0 15.37	1	3.318	— 20 12		17.38	
2515	O. Arg. N. 23362	8.0	22 0 28.15	1	2.192	+ 52 53		17.39	
2516	O. Arg. S. 21903	9.5	22 0 28.55	5	3.387	— 25 19 45.4	3	17.39	
2517	Anonymous		22 0 45.51	1	3.359	23 22		17.40	
2518	B. A. C. 7702		22 0 49		3.532	— 34 40 34.3	2	17.40	
2519	Anonymous	9.5	22 0 52.91	1	2.191	+ 52 59		17.41	
2520	O. Arg. N. 23385	7.0	22 1 12.25	3	2.193	52 59 27.8	2	17.42	
2521	O. Arg. N. 23425	8.5	22 1 48.24	1	2.195	+ 53 3		17.44	
2522	Anonymous	7.8	22 1 59.33	1	3.631	— 40 18		17.46	
2523	O. Arg. N. 23438	7.8	22 2 0.99	1	2.214	+ 52 30		17.46	
2524	O. Arg. S. 21925	6.5	22 2 12.24	1	3.369	— 24 18		17.46	
2525	Lacaille 9036		22 2 20		3.526	— 34 39 8.6	2	17.47	
2526	O. Arg. N. 23452	6.0	22 2 37.06	4	2.213	+ 52 40 21.0	1	17.48	
2527	Anonymous	6.5	22 3 13.85	2	3.623	— 40 12		17.51	
2528	O. Arg. S. 21944	9.0	22 3 15.35	1	3.365	24 11		17.51	
2529	O. Arg. S. 21962		22 4 30.70	1	3.402	27 4		17.56	
2530	O. Arg. S. 21972	9.1	22 5 35.11	2	+ 3.332	— 22 8		+ 17.61	

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			h. m. s.		s.	° ′ ″		″	
2531	O. Arg. S. 21975		22 5 37.61	1	+ 3.397	− 26 58		+ 17.61	
2532	O. Arg. S. 21980	9.0	22 5 42.33	2	3.332	22 7		17.61	
2533	O. Arg. S. 21983		22 5 44.28	1	3.392	27 7		17.61	
2534	O. Arg. S. 21987	8.2	22 5 57.48	2	3.325	22 3		17.62	
2535	O. Arg. S. 22002	7.0	22 6 55.04	2	3.329	− 22 3		17.66	
2536	Weisse 113	9.0	22 7 12.45	5	3.061	+ 0 57 59.1	3	17.67	
2537	Weisse 129	9.0	22 7 47.20	1	2.926	+ 1 20		17.70	
2538	O. Arg. S. 22022	8.2	22 8 29.64	2	3.324	− 21 55		17.73	
2539	Weisse 153	8.6	22 8 57.40	3	3.058	+ 1 18 9.0	3	17.75	
2540	θ Aquarii		22 9 58.33	8	3.164	− 8 25 45.0	2	17.79	
2541	Weisse 155		22 9 59.69	1	3.068	+ 0 20		17.79	
2542	ε Cephei		22 10 14		2.145	+ 56 23 44.8	1	17.80	
2543	Lacaille 9091		22 10 40		3.539	− 37 14 37.2	2	17.82	
2544	ρ Aquarii		22 13 21.44	1	3.161	8 28 20.0	1	17.92	
2545	Anonymous	9.2	22 13 51.66	1	3.317	22 19		17.94	
2546	O. Arg. S. 22087	8.8	22 13 59.24	2	3.317	22 17		17.95	
2547	O. Arg. S. 22092	6.4	22 14 25.98	2	3.315	22 15		17.97	
2548	O. Arg. S. 22102		32 15 27.26	1	3.351	− 25 21		18.00	
2549	Weisse 303		22 15 53.62	1	3.048	+ 2 22		18.02	
2550	Lacaille 9119		22 16 57		3.556	− 39 47 3.8	2	18.06	
2551	Anonymous		22 16 59		3.530	38 52 4.3	1	18.06	
2552	O. Arg. S. 22123	7.8	22 17 7.10	2	3.309	22 15		18.07	
2553	Weisse 331		22 17 12.57	1	3.193	11 50		18.07	
2554	Anonymous		22 17 14.98	1	3.193	11 50		18.07	
2555	Weisse 346		22 17 36.65	1	3.193	− 11 49		18.09	
2556	Weisse 360		22 17 52.49	3	3.040	+ 3 10		18.10	
2557	Anonymous		22 18 25.14	1	3.041	+ 3 8		18.12	
2558	O. Arg. S. 22132	8.2	22 18 29.04	2	2.306	− 22 15		18.12	
2559	π Aquarii		22 18 38.24	3	3.065	+ 0 43		18.13	
2560	B. A. C. 7817		22 18 59		3.330	− 24 20 30.0	1	18.14	
2561	53 Aquarii, (1st *)		22 19 29		3.250	17 24 3.3	1	18.16	
2562	53 Aquarii, (2d *)		22 19 29		3.250	17 24 8.1	1	18.16	
2563	O. Arg. S. 22165	8.2	22 20 54.75	1	3.368	− 27 52		18.21	
2564	35 Pegasi		22 21 16.68	3	3.033	+ 4 2 43.9	2	18.22	
2565	Lacaille 9138		22 21 29.60	1	3.613	− 44 10		18.23	
2566	Lacaille 9139		22 21 34.10	4	3.501	37 38		18.23	
2567	O. Arg. S. 22177	8.6	22 22 7.59	2	3.364	27 49		18.26	
2568	Lacaille 9144		22 22 8		3.383	29 19 21.3	2	18.26	
2569	O. Arg. S. 22181	7.0	22 22 29.22	2	3.363	27 46		18.27	
2570	58 Aquarii		22 24 47.80	1	3.182	11 34		18.35	
2571	O. Arg. S. 22204	9.4	22 25 18.92	1	3.362	28 23		18.37	
2572	Lacaille 9167		22 25 50		3.457	35 48 22.7	2	18.39	
2573	Anonymous	8.8	22 26 21.51	1	3.357	28 13		18.40	
2574	O. Arg. S. 22224	9.2	22 26 53.49	1	3.355	28 8		18.42	
2575	O. Arg. S. 22237		22 27 38.13	4	3.268	20 32		18.45	
2576	Anonymous		22 27 51.05	1	3.353	28 13		18.46	
2577	η Aquarii		22 28 40.55	6	3.079	− 0 47 11.2	2	18.48	
2578	Weisse 601		22 29 39		3.003	+ 7 36 1.8	1	18.52	
2579	Weisse 602	8.2	22 29 47.23	4	3.171	− 10 58		18.52	
2580	Weisse 619	8.0	22 30 22.74	4	3.171	10 57		18.54	
2581	Lacaille 9190		22 30 37		3.417	34 8 34.4	2	18.55	
2582	O. Arg. S. 22288	8.0	22 30 53.62	1	3.343	28 7		18.56	
2583	Wash. Z. LIV, 17		22 31 10.04	3	3.336	27 32 39.0	3	18.57	
2584	O. Arg. S. 22304	9.0	22 31 44.92	1	3.342	28 14		18.59	
2585	ε Piscis Australis	4.0	22 33 27.62	3	3.331	− 27 43 13.6	3	18.64	
2586	30 Cephei		22 34 3		2.128	+ 62 34 32.7	1	18.66	
2587	ζ Pegasi		22 34 58.71	7	2.985	+ 10 9 12.8	3	18.69	
2588	Lalande 44373		22 35 9.38	1	3.163	− 10 48		18.70	
2589	Anonymous		22 35 10.94	1	2.421	+ 53 41		18.70	
2590	65 Aquarii	8.2	22 36 10.78	1	3.163	− 10 47		18.73	
2591	O. Arg. N. 24533	8.0	22 36 17.65	4	2.422	53 42 29.9	1	18.73	
2592	O. Arg. N. 24553	6.8	22 37 5.99	2	2.431	+ 53 34		18.76	
2593	O. Arg. S. 22374	9.0	22 37 19.44	2	3.287	− 24 27		18.77	
2594	O. Arg. S. 22373	9.0	22 37 20.15	4	3.312	26 58 24.8	2	18.77	
2595	O. Arg. S. 22391	9.4	22 38 34.95	2	+ 3.284	− 24 32		+ 18.80	

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			h. m. s.		s.	° ′ ″		″	
2596	Lacaille 9244		22 39 34		+ 3.380	— 33 5 59.0	2	+ 18.83	
2597	B. A. C. 7944		22 40 21		3.439	38 54 13.5	2	18.86	
2598	g^2 Aquarii	6.2	22 40 34.01	6	3.240	20 17		18.86	
2599	τ^1 Aquarii	6.0	22 40 48.43	1	3.281	24 44		18.87	
2600	Lacaille 9261		22 41 19.27	1	3.314	28 14 42.5	2	18.89	
2601	O. Arg. S. 22432	9.5	22 42 13.43	1	3.242	20 57		18.91	
2602	Anonymous	9.4	22 42 33.91	1	3.185	14 16		18.92	
2603	τ^2 Aquarii	4.0	22 42 42.33	1	3.185	14 17		18.93	
2604	O. Arg. S. 22436	7.6	22 42 55.92	3	3.241	20 58		18.93	
2605	Lacaille 9283		22 44 14.27	1	3.269	24 27		18.97	
2606	Lacaille 9284		22 44 45.11		3.429	39 38 27.3	2	18.98	
2607	O. Arg. S. 22450	9.4	22 44 54.05	2	3.270	— 24 43		18.99	
2608	ι Cephei		22 45 4		2.129	+ 65 31 2.1	2	18.99	
2609	Lacaille 9290		22 45 32		3.317	— 29 52 13.1	1	19.01	
2610	λ Aquarii		22 45 49.87	13	3.134	8 16		19.01	
2611	O. Arg. S. 22466	7.0	22 46 20.32	1	3.266	24 37		19.03	
2612	Weisse 976	8.6	22 47 40.48	1	3.152	10 58		19.07	
2613	δ Aquarii		22 47 44		3.195	16 30 39.6	1	19.07	
2614	78 Aquarii		22 47 47.88	4	3.129	7 54		19.07	
2615	O. Arg. S. 22487	7.6	22 48 7.73	2	3.261	24 40		19.08	
2616	Weisse 994	8.8	22 48 37.56	2	3.150	10 47		19.09	
2617	Lacaille 9301		22 48 38		3.331	32 19 30.7	1	19.09	
2618	Lacaille 9307		22 49 7		3.329	32 15 9.9	1	19.10	
2619	O. Arg. S. 22499	8.4	22 49 13.43	2	3.258	24 33		19.11	
2620	Weisse 1017	8.2	22 50 0.28	1	3.150	— 10 57 21.5	1	19.13	
2621	Weisse 1026	8.0	22 50 13.25	1	3.071	+ 0 12		19.13	
2622	O. Arg. S. 22508	8.0	22 50 17.05	2	3.255	— 24 32		19.13	
2623	α Piscis Australis		22 50 27.78	1	3.306	30 19		19.14	
2624	Lacaille 9315, (1st *)		22 50 42.54	1	3.273	26 47		19.15	
2625	Lacaille 9315, (2d *)		22 50 42.70	1	3.273	26 47		19.15	
2626	B. A. C. 7998		22 51 20.37	1	3.361	36 12 51.8	1	19.16	
2627	Weisse 1068		22 52 11		3.133	— 8 54 29.3	1	19.18	
2628	2 Piscium		22 52 47.67	1	3.070	+ 0 16		19.20	
2629	Lacaille 9331		22 53 21		3.262	— 26 19 19.2	2	19.21	
2630	81 Aquarii		22 54 38		3.123	7 45 33.5	1	19.24	
2631	Weisse 1136	7.0	22 55 0.31	1	3.122	7 39		19.26	
2632	Lalande 45028	7.9	22 55 5.04	7	3.102	4 32 19.4	3	19.26	
2633	Anonymous	7.8	22 55 9.48	1	3.115	6 38		19.26	
2634	Anonymous	8.6	22 55 23.17	4	3.101	4 30		19.26	
2635	Anonymous	9.4	22 55 59.22	1	3.127	8 30		19.28	
2636	Lacaille 9356		22 56 36		3.293	31 8 41.4	2	19.29	
2637	Anonymous	9.4	22 57 7.96	1	3.111	— 6 7		19.30	
2638	β Piscium		22 57 15		3.052	+ 3 7 14.0	1	19.31	
2639	Lacaille 9352		22 57 25.31	1	3.345	— 36 38		19.31	
2640	Anonymous		22 57 43.85	1	2.980	+ 14 24		1..32	
2641	Lacaille 9359		22 57 48.05	1	3.261	— 27 51		19.32	
2642	Anonymous	8.0	22 57 53.94	1	3.111	6 10		19.32	
2643	Lacaille 9361		22 58 15.94	1	3.242	— 25 35		19.33	
2644	α Pegasi		22 58 17.18	8	2.980	+ 14 30		19.33	
2645	h^1 Aquarii	6.0	22 58 21.90	1	3.125	— 8 24		19.33	
2646	h^2 Aquarii	7.0	22 58 31.55	1	3.125	8 27		19.34	
2647	Weisse 1223	8.7	22 58 44.77	5	3.103	4 57 30.3	3	19.34	Differs 29″ from Weisse.
2648	Anonymous	9.2	22 59 6.06	1	3.124	8 22		19.35	
2649	c^1 Aquarii		22 59 41		3.230	24 26 44.6	1	19.37	
2650	Weisse 1248	8.9	22 59 57.90	6	3.102	4 54 4.5	3	19.37	
2651	Lacaille 9376		23 1 18.83	1	3.265	29 41		19.40	
2652	c^2 Aquarii	5.0	23 2 30.68	1	3.205	21 53		19.43	
2653	Lacaille 9385		23 3 10.27	1	3.355	40 45		19.44	
2654	Lalande 45326	7.5	23 3 30.83	1	3.156	14 21		19.45	
2655	Lacaille 9388		23 3 43		3.261	30 13 39.5	2	19.45	
2656	O. Arg. S. 22656		23 4 12.41	1	3.241	27 37 8.0	2	19.46	
2657	O. Arg. S. 22657		23 4 14.13	1	3.240	27 35 40.9	2	19.46	
2658	O. Arg. S. 22666	9.0	23 5 31.66	1	3.175	18 4		19.49	
2659	O. Arg. S. 22670	9.0	23 5 42.73	1	3.174	18 2		19.50	
2660	Weisse 95		23 6 57.22	1	+ 3.096	— 4 31		+ 19.52	

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			h. m. s.		s.	° ′ ″		″	
2661	Anonymous	7.1	23 7 14.17	9	+ 3.186	— 20 25		+ 19.53	
2662	Weisse 112	8.8	23 7 26.38	1	3.058	+ 2 37		19.53	
2663	ϕ Aquarii		23 7 35.32	1	3.108	— 6 46		19.53	
2664	Lacaille 9307		23 7 45.70	1	3.342	41 48		19.54	
2665	Anonymous		23 7 46		3.324	39 53 7.1	2	19.54	
2666	Anonymous		23 8 53		3.320	39 58 36.2	1	19.56	
2667	Lacaille 9425	6.0	23 9 34.89	2	3.201	— 23 56		19.57	
2668	γ Piscium		23 10 25.58	21	3.059	+ 2 34		19.59	
2669	Lacaille 9432		23 10 59.07	1	3.323	— 41 32		19.60	
2670	ψ^3 Aquarii		23 11 11		3.121	9 53 28.9	2	19.60	
2671	Lacaille 9436	6.5	23 11 54.82	2	3.229	29 28		19.62	
2672	Lacaille 9440		23 12 16		3.303	39 52 4.9	2	19.62	
2673	Lacaille 9443		23 12 36.48	1	3.325	42 40		19.63	
2674	Weisse 242		23 13 3.68	1	3.083	— 2 17		19.64	
2675	o Cephei		23 13 17		2.422	+ 67 24 2.7	3	19.64	
2676	Weisse 246		23 13 22.61	1	3.083	— 2 18		19.64	
2677	O. Arg. S. 22766	8.3	23 13 34.84	3	3.174	— 20 44		19.65	
2678	b Piscium	4.0	23 13 43.46	1	3.050	+ 4 40		19.65	
2679	B. A. C. 8129		23 13 59		3.103	— 6 37 1.4	2	19.65	
2680	12 Andromedæ		23 14 37		2.870	+ 37 28 22.5	1	19.66	
2681	B. A. C. 8134		23 14 39.47	1	3.097	— 5 23		19.66	
2682	Lalande 45758	8.0	23 15 41.99	1	3.077	1 7		19.68	
2683	97 Aquarii	7.0	23 15 50.19	1	3.144	15 45		19.69	
2684	Lacaille 9453		23 15 55		3.187	24 9 43.8	3	19.69	
2685	O. Arg. S. 22798		23 16 11		3.186	24 6 13.7	2	19.69	
2686	B. A. C. 8145		23 16 11.99	1	3.303	42 19		19.69	
2687	B. A. C. 8154, (1st *)		23 17 0		3.112	9 10 20.9	2	19.70	
2688	B. A. C. 8154, (2d *)		23 17 1		3.112	9 10 19.8	2	19.70	
2689	B. A. C. 8155		23 17 12.96	2	3.175	— 22 29		19.71	
2690	Radcliffe 6064	8.0	23 18 18.22	1	2.733	+ 54 28		19.72	
2691	v Pegasi		23 18 54		2.972	22 41 21.0	2	19.73	
2692	Radcliffe 6067	7.8	23 18 56.98	4	2.739	54 22 19.6	3	19.73	
2693	Anonymous	8.2	23 20 0.94	3	2.748	54 22		19.75	
2694	Weisse 386	9.2	23 20 9.57	3	3.067	0 59 6.8	3	19.75	
2695	Anonymous		23 20 10.28	1	2.750	54 21		19.75	
2696	κ Piscium		23 20 16.08	7	3.070	0 32 40.5	3	19.75	
2697	Anonymous	7.8	23 20 31.32	1	2.755	54 7		19.76	
2698	Anonymous	8.2	23 20 35.62	1	2.755	54 13		19.76	
2699	Anonymous	7.8	23 20 38.88	1	2.756	54 7		19.76	
2700	Anonymous		23 20 50.13	1	2.755	54 21		19.76	
2701	Anonymous	7.8	23 20 50.75	1	2.758	54 7		19.76	
2702	B. A. C. 8172		23 21 0		2.906	36 15 37.7:	1	19.77	
2703	Radcliffe 6081	8.0	23 21 7.26	4	2.760	55 8 59.9	3	19.77	
2704	ϑ Piscium		23 21 22.42	8	3.050	5 39 55.7	5	19.77	
2705	Anonymous	8.4	22 22 15.53	1	2.769	54 7		19.78	
2706	Anonymous	9.2	23 22 26.47	2	2.770	54 12		19.79	
2707	Anonymous		23 22 29.46	1	2.772	54 2		19.79	
2708	Anonymous	8.4	23 22 30.80	1	2.771	+ 54 7		19.79	
2709	B. A. C. 8184	6.0	23 22 48.75	3	3.092	— 5 14 23.9	3	19.79	
2710	Weisse 443		23 22 56		3.070	+ 0 23 18.5	2	19.80	
2711	Weisse 449		23 23 17		3.070	+ 0 26 52.3	2	19.80	
2712	Lacaille 9497	7.0	23 23 25.46	1	3.160	— 22 35		19.80	
2713	Weisse 473		23 24 27		3.066	+ 1 38 55.6	1	19.81	
2714	Anonymous		23 24 37.34	1	3.228	— 37 15		19.82	
2715	Lacaille 9507		23 24 50.73	1	3.259	42 28		19.82	
2716	b^3 Aquarii		23 24 54		3.155	22 5 10.7	1	19.82	
2717	β Sculptoris		23 25 58		3.230	38 32 13.0	2	19.84	
2718	b^4 Aquarii	5.5	23 26 28.29	1	3.149	21 38		19.84	
2719	Lacaille 9519	6.0	23 27 9.53	2	3.163	25 34		19.85	
2720	14 Piscium		23 27 27.97	2	3.079	1 58		19.85	
2721	O. Arg. S. 22911	8.3	23 27 49.03	1	+ 3.132	— 17 43		19.86	
2722	B. A. C. 8213		23 27 49.73	2	— 0.062	+ 86 35		19.86	
2723	Lacaille 9524	7.0	23 27 59.09	1	+ 3.206	— 35 48 4.6	1	19.86	
2724	Lacaille 9527	6.0	23 28 48.37	2	3.169	28 12		19.87	
2725	Lacaille 9532		23 29 51.40	1	+ 3.157	— 25 58		+ 19.88	

Number.	Name.	Magnitude.	Right ascensions, 1870.0.	No. of obs.	Precession.	Declinations, 1870.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2726	Lacaille 9539		23 31 2.54	1	+ 3.153	− 25 35		+ 19.89	
2727	Lacaille 9540		23 31 5.86	2	3.225	42 15		19.89	
2728	B. A. C. 8225		23 31 17		3.119	15 48 37.9	1	19.90	
2729	Lamont 2822		23 31 31		3.076	1 32 45.0	2	19.90	
2730	Lamont 2823		23 31 35		3.077	1 35 18.5	2	19.90	
2731	Lacaille 9542		23 31 58.63	1	3.220	42 14		19.91	
2732	Lacaille 9548		23 32 54.14		3.139	23 15		19.92	
2733	Lacaille 9547		23 32 59		3.176	− 33 27 7.6	2	19.92	
2734	ι Piscium		23 33 15.90	17	3.059	+ 4 55 22.3	3	19.92	
2735	μ Sculptoris		23 33 49		3.170	− 32 47 27.9	2	19.93	
2736	γ Cephei		23 34 2.44	1	2.422	+ 76 54 24.5	4	19.93	
2737	Lacaille 9554		23 34 7.67	1	3.195	− 38 33		19.93	
2738	O. Arg. S. 22993	7.9	23 34 59.99	3	3.126	− 20 29		19.94	
2739	λ Piscium		23 35 24.82	1	3.069	+ 1 4		19.94	
2740	Lacaille 9576		23 37 2.52	1	3.163	− 34 8		19.96	
2741	Lacaille 9578		23 37 18.75	1	3.189	41 24		19.96	
2742	O. Arg. S. 23022		23 37 42.93	1	3.138	26 58		19.96	
2743	i^3 Aquarii		23 39 17		3.115	19 21 5.1	2	19.97	
2744	B. A. C. 8260		23 39 38.85	1	3.180	− 42 14		19.98	
2745	19 Piscium		23 39 44.96	4	3.066	+ 2 46		19.98	
2746	Lacaille 9597		23 40 40		3.163	− 38 52 43.1	2	19.98	5′ greater than Lacaille.
2747	Lalande 46609	7.2	23 40 58.27	4	3.082	5 11 1.9	3	19.99	
2748	20 Piscium		23 41 15		3.079	− 3 29 0.8	1	19.99	
2749	Weisse 845	9.5	23 42 1.89	2	3.071	+ 0 17		19.99	
2750	Weisse 848	8.0	23 42 4.70	3	3.081	− 5 9 27.4	3	19.99	
2751	δ Sculptoris		23 42 9.01	4	3.129	28 51		19.99	
2752	Lacaille 9605		23 42 36		3.127	− 28 34 28.5	1	20.00	
2753	21 Piscium		23 42 48.09	3	3.071	+ 0 21		20.00	
2754	Lacaille 9610		23 43 5.37	1	3.120	− 26 3		20.00	
2755	B. A. C. 8287		23 43 54		3.108	20 57 17.2	1	20.01	
2756	Weisse 895	8.2	23 45 4.66	3	3.082	6 24 4.7	3	20.01	
2757	Weisse 936	9.2	23 46 43.83	2	3.080	5 46 8.8	3	20.02	
2758	Anonymous		23 47 34.33	1	3.079	5 44		20.03	
2759	O. Arg. S. 23120		23 47 56.65	2	3.103	23 46		20.03	
2760	Lacaille 9641		23 48 20		3.125	− 38 5 14.2	2	20.03	
2761	26 Piscium		23 48 28.73	1	3.065	+ 6 20 54.2	1	20.03	
2762	B. A. C. 8314		23 48 32		2.842	+ 73 41 13.6	2	20.03	
2763	O. Arg. S. 23126		23 49 5.74	2	3.100	− 23 42		20.03	
2764	Anonymous		23 49 7.02	3	3.068	+ 3 22 16.3	2	20.03	
2765	Anonymous	9.0	23 49 13.76	1	3.072	0 30		20.03	
2766	Weisse 1002		23 49 52.82	1	3.072	+ 0 32		20.04	
2767	Lacaille 9663	6.0	23 50 54.89	1	3.107	− 33 35		20.04	
2768	1 Ceti		23 51 40		3.087	− 16 34 14.4	2	20.04	
2769	σ Cassiopeæ		23 52 25		3.009	+ 55 1 53.8	2	20.05	
2770	ω Piscium		23 52 38.20	9	3.067	+ 6 8 38.4	2	20.05	
2771	O. Arg. S. 23166	7.0	23 52 42.93	1	3.088	− 20 45		20.05	
2772	Anonymous	9.0	23 52 55.97	1	3.068	+ 6 9		20.05	
2773	Weisse 1075		23 53 20		3.072	0 21 56.0	2	20.05	
2774	Weisse 1090		23 53 55		3.072	+ 0 20 32.8	2	20.05	
2775	Weisse 1099	8.4	23 54 20.42	6	3.075	− 5 38 58.5	3	20.05	
2776	Lacaille 9695		23 54 41		3.094	29 26 55.7	2	20.05	
2777	29 Piscium		23 55 11		3.074	− 3 45 2.7	1	20.05	
2778	e^2 Piscium		23 55 51.02	1	3.069	+ 7 45 51.7:	1	20.05	
2779	O. Arg. S. 23206	6.2	23 56 16.79	2	3.080	− 20 46		20.05	
2780	Lacaille 9705		23 57 31		3.081	− 30 51 31.8	2	20.06	
2781	Anonymous	8.2	23 57 50.34	5	3.072	+ 1 36		20.06	
2782	Weisse 1183		23 58 23.84	3	3.072	− 1 14		20.06	
2783	Weisse 1186	8.5	23 58 30.24	6	3.072	+ 1 40		20.06	
2784	Weisse 1196		23 58 52		3.073	− 10 51 3.8	1	20.06	
2785	Weisse 1201		23 59 36.32	2	3.071	+ 12 9		20.06	
2786	Weisse 1208		23 59 39		3.072	− 11 30 8.6	2	20.06	8″ greater than Weisse.
2787	Weisse 1209		23 59 39.35	2	+ 3.072	− 1 58		+ 20.06	

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METEOROLOGICAL OBSERVATIONS

MADE AT THE

U. S. NAVAL OBSERVATORY

DURING THE

YEAR 1865.

INTRODUCTION.

The Meteorological Department was under the charge of Mr. J. A. Rogers until April 12, when Prof. J. R. Eastman was assigned to that duty. The observations are made at every third hour of the day and night, commencing with 3*h*. 0*m*., civil time, Washington.

Mr. Thomas Hays and Mr. Dennis Horrigan, watchmen, are the observers. Their instructions inculcate unfailing punctuality and the utmost carefulness in reading.

BAROMETERS.

A standard barometer, made by Mr. James Green, was mounted in the office of the Superintendent during March, 1862. Its cistern is six inches higher than that of the Newman barometer in the northwest room, with which the daily observations are made. Drawings of the instrument are given in the volume for 1862.

Two brackets projecting from a stout mahogany board hold pivots at the extremities of a strong hollow cylinder of bronzed metal. The pivots are of steel. The upper one has a motion of revolution only, while the lower rests in a socket that may be moved laterally by three equidistant capstan-head screws, and thereby admits of adjustment for verticality. Just below the upper pivot, and also at seven inches above the lower one, there are collars, to each of which is secured, perpendicular to the axis of the cylinder, a strong and nearly similar arm of brass. Their purpose is to support the barometer tube and its measuring apparatus. Cylindrical apertures through these arms permit free passage of the measuring rod, the tube being held by collars at their semicircular extremities. The construction of the arms is such that the centres of the apertures for the measuring rod and the barometer tube are parallel with the axis of the large cylinder. A small spirit-level is fitted upon the lower arm perpendicular to that plane.

A third arm, for the support of the cistern, is firmly secured to the cylinder by a collar just above the lower pivot. The cistern is an inverted bell glass, four inches in diameter. It is covered with a parallel plate of the same material, whose under surface and the rim of the bell have been ground smooth so as to prevent the passage of dust between them. There are two apertures in the cover, each of which is fitted with an ivory ferrule cemented to the glass. The barometer tube passes freely, but not too loosely, through the larger and central one, and the extremity of the measuring apparatus is admitted through the smaller. The cistern is filled with mercury to within one-fourth of an inch of its rim. The external and internal diameters of the barometer tube are respectively 1.0 and 0.8 inch. The measuring apparatus for its mercurial column consists of a hollow brass cylinder 0.8 inch in diameter, having a slender ivory cone at its lower extremity, and a silvered divided scale at the upper. The apex of the former is brought into contact with the surface of the mercury in the cistern by a slow-motion screw that passes through a flange from the rod into the lower arm which sustains it. The height of the column is read to 0.002 inch by means of the divided scale and a vernier moved by a milled head without and a rack and pinion within the hollow cylinder. Attached to the vernier, and freely movable on the tube with it, there is a cylindrical band that is perforated by oblong, horizontal slits in front and rear. The upper edges of these slits are in the same horizontal plane as 0 of the vernier, and the edge of the rear one is serrated. Rays of light passing through the teeth greatly assist the eye in placing these edges tangent to the convex surface of the mercury in the tube.

The attached thermometer is suspended between the main supporting shaft and the cylinder of the measuring apparatus. Its bulb is 7.5 inches long and 0.9 inch in diameter, and its scale is of silvered brass, 6.5 inches long. The latter is divided to half degrees from 37° to 153° Fahrenheit, the length of each degree being 0.095 inch.

The advantages which Green's barometer has over those of Newman's pattern are—

1st. The mobility of the main supporting cylinder and its attached spirit-level permit speedy verification of verticality.

2d. The contact of the zero of the scale and its image can be observed with greater certainty.

3d. The serrated edge permits more accurate reading at the top of the column.

4th. The position of the attached thermometer affords greater probability that the temperature of its mercury and that of the barometer column will be similar.

Newman's barometer.—The barometer in daily use was made by Newman. Its cistern and tube are of glass. The internal diameter of the former is 3.0 inches and of the latter 0.532 inch. The cap rests in a cylindrical box of bronzed metal five inches deep, the surface of the mercury being visible through slits in the top of the box. The upper end of the tube is held in the arch of a double metallic frame which is secured in the cap of the box. Pivots at the bottom of the box and top of the arch rest in the sockets of heavy brackets that project from a substantial mahogany board. Three equidistant horizontal screws act against the pivot of the lower socket to effect the vertical adjustment of the tube. The scale by which the height of the mercury column is read is attached to a brass rod within one of the upright frames, and is movable by a slow-motion screw. It is silvered and divided to 0.05 inch, but by means of a vernier may be read to 0.002 inch. There is an ivory point at its lower extremity and within the cistern, and the scale is in adjustment for use when the point and its image are in apparent contact.

The temperature of the mercury within the cistern is shown by a small ivory scale thermometer, which is fitted within the other tube-sustaining frame, its bulb passing below the surface of the mercury. The divisions of the thermometric scale are to 1° and are supposed to be correct. The instrument is placed between two north windows of the northwest room on the first floor of the building, its cistern 103 feet above mean half-tide of the Potomac river. The adjustments for verticality of the tube have not been changed during the year.

During the year 1864 nine series of comparisons were made with Green's standard by Mr. J. R. Eastman, assisted by Prof. William Harkness and Mr. J. A. Rogers, and the correction, + 0.005 inch, then determined, has been applied to all the observations of Newman's barometer in 1865.

METEOROLOGICAL OBSERVATORY.

In 1862 a small building for special protection of thermometers was erected about twenty yards southwest of the central edifice. It is constructed of wood, and painted white both inside and without. Its form is octagonal, each side being two feet five inches by six feet three inches high to the eaves. Its roof is of tin, left bright on the under side; the ceiling is of thick plank dovetailed together, and between it and the roof there is open space. The door is on the north side, and it, as well as the sides, is of double lattice-work, with a space of three inches between the inner and outer lattice. They terminate one foot above the ground, and as the building is on a grass plat, instruments within should indicate correct temperature. But as there is a dense growth of trees entirely surrounding the Observatory buildings, and the area, enclosed by trees and buildings within which the thermometers are suspended, does not exceed one acre in extent, it may be doubted whether our thermometers show true temperatures either during calm and clear weather or high winds. In both cases the enclosed air becomes unduly heated.

THERMOMETERS.

There are four thermometers in the Meteorological Observatory, made specially for the Observatory by Mr. James Green, of New York.

Dry thermometer.—This is a mercurial thermometer, whose bulb is 1.5 inch in length and 0.2 inch in diameter. Its scale is of glass, twelve inches long, 0.8 inch wide, and 0.1 inch thick. The bulb projects about one inch beyond the scale. The divisions of the latter are engraved upon the glass to half degrees from — 30° to + 125° Fahrenheit. Each division is about 0.032 inch.

Wet thermometer.—This is similar to the preceding in materials, construction, and dimensions. Its scale extends from — 35° to + 115°. Its bulb is covered with fine linen, which is kept moist by the capillary action of a bundle of fibres that communicate with water in a bird-glass placed close beside it. The linen is changed from time to time when its free action appears to have been impaired by dust.

Maximum thermometer.—This differs from the instruments described only in the addition of a small register above the column of mercury, and in the extent of its scale. The register is of steel; and to obviate as far as possible the risk of entanglement from the action of mercury, a small porcelain disk is interposed between its extremity and the top of the column. The scale of this instrument extends from — 32° to + 163° Fahrenheit.

Minimum thermometer.—This is a tranparent spirit thermometer, with bulb and tube of the same form, but somewhat greater dimensions than those of the other instruments. Its scale is of the same material and size, and is divided from — 18° to + 105°. Its registering index is a short piece of delicate steel wire enclosed in thin blue glass, with a knob at its outer extremity, or that furthest from the bulb. It floats freely in the spirit. The thermometers are suspended on metallic frames five feet from the ground and near the centre of the building. The frames are attached to a short metallic support firmly secured to the ground. Rods placed across the building prevent accidental disturbance of the thermometers, or too near approach of the person in reading. For night observations the lantern is placed on a slide, which permits vertical or rotary motion, so that its pencil of rays falls upon the top of the columns to be noted. The registering thermometers are in a horizontal position beside each other and above the other two instruments, which are also near and parallel. The former are read only at six p. m. daily, after which their indices are readjusted by means of a small magnet kept for that purpose within the building.

Solar thermometer.—This instrument also was specially made by Mr. Green. It is a mercurial thermometer, twelve inches long, with a blackened spherical bulb enclosed with its tube within a cylinder of glass of the same form as itself, but of about three times the diameter. Air has been exhausted from the cylinder, in the centre of which it is kept by cork collars, one of them being near each extremity. The tube is divided to constitute the scale, and is numbered to whole degrees from + 5° to + 173° Fahrenheit. The engraved marks are rendered distinct by a band of white porcelain at the back of the tube. Just above the bulb the tube is contracted, so that, with the tube in a horizontal position, expanding mercury passes freely; but at each decrease of temperature the column is broken there, and its summit marks the highest temperature since the previous adjustment.

The instrument rests in metallic crutches three inches high, attached to a board sixteen by five inches, which is painted green and placed on the grass. The tube lies very nearly parallel with the surface of the ground, and for adjustment is raised to a vertical position after every observation.

INVESTIGATION OF ERRORS.

During the early part of 1862, and before the new thermometers were permanently placed for observation, a series of comparisons was made between them and the standard, whose errors

were investigated by Mr. S. C. Walker.* In those comparisons the standard was placed near the centre of a board, with the new thermometers around and close to it, and their bulbs in contact with the board. The resulting errors of the new instruments for temperature below + 50° are published in the introduction to the Meteorological Observations for 1862, page 665, and are pretty uniformly in excess of 1° for each of the instruments.

Afterwards the standard was suspended beside the other thermometers, and comparisons noted at different temperatures during the year 1863. In these the bulbs were not in contact with any substance. These comparisons† discredit all the early observations, but more especially those below + 50°, which may have been affected by contact of the bulbs with the board.‡ The corrections derived from the series of comparisons are as follows:

CORRECTIONS TO THERMOMETERS.

Temp.	Dry.	Max.	Min.	Temp.	Dry.	Max.	Min.
°	°	°	°	°	°	°	°
24	− 0.2	+ 0.2	− 0.1	60	+ 0.1	0.0	+ 0.2
25	.1	.2	.1	61	.1	.0	.2
26	.0	.1	.1	62	.1	+ .1	.3
27	.0	.1	.0	63	.1	.1	.3
28	.0	.1	.0	64	.1	.1	.4
29	.0	.1	.0	65	.2	.1	.4
30	.0	.1	.0	66	.2	.0	.4
31	.0	.2	.0	67	.2	.0	.4
32	+ .1	.2	+ .1	68	.2	.0	.2
33	.1	.3	.1	69	.2	.0	.1
34	.1	.2	.0	70	.2	.1	.0
35	.1	.2	.0	71	.2	.2	− .1
36	.1	.1	.0	72	.1	.4	− .1
37	.1	.1	.1	73	.0	.3	+ .1
38	.1	.2	.1	74	.0	.1	.2
39	.2	.3	.2	75	.0	.0	.2
40	.2	.5	+ .5	76	.1	.0	.2
41	.0	.1	− .2	77	.1	.0	.2
42	− .2	.1	− .2	78	.2	.1	.3
43	.3	.1	+ .1	79	.6	.2	.4
44	.1	.1	.2	80	.1	.0	.2
45	.0	.2	.3	81	.1	.2	.2
46	+ .1	.2	.2	82	.1	.2	.2
47	.2	.2	.2	83	.1	+ .1	.2
48	.2	+ .2	+ .3	84	.2	− .2	.3
49	.2	− .1	− .1	85	+ .3	− .2	.4
50	.0	− .1	− .2	86	− .1	+ .2	.4
51	.0	+ .3	+ .2	87	.2	.4	.4
52	.0	.3	.2	88	.0	.5	.3
53	.0	.3	.2	89	+ .2	.3	.2
54	.0	.3	.2	90	.1	.1	.1
55	.0	.2	.2	91	.2	.0	.2
56	.0	+ .1	.1	92	.3	.2	.3
57	.1	.0	.1	93	.2	.3	.3
58	.1	− .1	.1	94	+ 0.1	+ 0.2	+ 0.2
59	+ 0.1	− 0.1	+ 0.1				

* Astronomical Observations made at the Observatory, Washington, in 1845, Appendix, page 54.
† Washington Astronomical Observations, 1863, page 435. ‡ Washington Astronomical Observations, 1863, page 434.

No comparisons were made in 1864. These are the best results attainable from data yet collected, but as they are not regarded as entirely conclusive, they have not been applied to the tri-hourly observations.

DIRECTION AND FORCE OF THE WIND.

A vane revolves freely on a spindle at the top of the time-ball staff, and the point of the compass to which it is directed is estimated from the known azimuths of the lines of the building. A close approximation to the truth is arrived at during daylight; but at night, and especially on cloudy ones, when the vane is not visible as a guide, the recorded directions are probably no more reliable than as rough guesses.

The velocity of the atmospheric current is stated in numerals, of which 0 denotes a calm, 1 a very light breeze, and so on to 10, a violent gale. These numbers, under the head "Force," are mere estimates, and, at best, are only approximative.

CLOUDS.

In the description of the prevailing forms of clouds, the nomenclature of Howard is used; C., K., S., N., being the symbols for the forms which he denominates *cirrus*, *cumulus*, *stratus*, *nimbus*, and the double letters C. S., C. K., &c., their combinations, to indicate *cirro stratus*, *cirro cumulus*, &c. The portion of the sky obscured is simply a naked-eye estimate from careful scrutiny of the whole hemisphere. A clear sky is denoted by 0, and total obscuration by 10.

RAIN-GAUGE.

This instrument is placed within the enclosure for the solar thermometer to the southwest of the main building. It is a cylinder, 4.1 inches in diameter, soldered to an inverted cone, which is loaded with lead on the outside and near the apex. The cone rests in an aperture of a box whose top is horizontal, and this, aided by the lead, prevents disturbance during violent winds. The top of the gauge is 2.0 feet above the ground, and it is free from all shelter during driving rains. There is an aperture at the apex of the cone, through which, as it descends, the rain-water passes to a receiving bottle within the box, and the water thus collected is measured in a graduated glass cylinder with an internal diameter of 0.60 inch. It was measured at least once in each day, and, as the apex of the cone closes the mouth of the bottle, except through the small aperture, there is little or no loss by evaporation. Each inch of snow is assumed equivalent to 0.111 inch of rain.

The transcripts from the journal and computations of results were made by Prof. J. R. Eastman. This officer made daily scrutiny of the journal during the year, as well for the detection of inaccuracies as for the omission of subjects proper for entry, and before the circumstances of the observation could have been forgotten by the observer.

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
January 1	29.986	30.051	30.063	30.124	30.118	30.156	30.241	30.275
2	30.258	30.250	30.216	30.218	30.135	30.114	30.136	30.175
3	30.182	30.192	30.215	30.242	30.161	30.098	30.049	30.022
4	29.961	29.968	29.997	30.073	30.049	30.085	30.145	30.245
5	30.261	30.272	30.286	30.318	30.211	30.148	30.125	30.103
6	30.079	30.043	30.018	29.997	29.859	29.758	29.570	29.466
7	29.375	29.275	29.185	29.286	29.495	29.670	29.922	30.137
8	30.245	30.365	30.447	30.553	30.508	30.486	30.492	30.494
9	30.414	30.392	30.371	30.380	30.300	30.229	30.205	30.152
10	30.064	29.883	29.693	29.558	29.442	29.348	29.250	29.306
11	29.403	29.532	29.749	29.878	29.934	29.991	30.071	30.088
12	30.138	30.184	30.205	30.259	30.189	30.142	30.132	30.110
13	30.084	30.094	30.117	30.136	30.051	30.005	30.001	29.939
14	29.792	29.674	29.595	29.586	29.601	29.647	29.676	29.709
15	29.704	29.736	29.756	29.774	29.732	29.667	29.617	29.579
16	29.559	29.613	29.669	29.747	29.786	29.758	29.758	29.754
17	29.735	29.629	29.578	29.546	29.490	29.481	29.580	29.698
18	29.768	29.885	29.909	30.004	30.046	30.038	30.079	30.149
19	30.184	30.233	30.215	30.228	30.148	30.061	29.963	30.012
20	30.040	30.103	30.169	30.289	30.326	30.242	30.253	30.293
21	30.272	30.245	30.205	30.165	30.106	29.976	29.900	29.854
22	29.926	29.955	29.972	29.999	30.001	29.938	29.918	29.896
23	29.854	29.736	29.664	29.604	29.502	29.439	29.447	29.535
24	29.592	29.654	29.706	29.774	29.784	29.755	29.802	29.850
25	29.881	29.912	29.930	29.969	29.934	29.918	29.894	29.905
26	29.891	29.895	29.862	29.868	29.824	29.813	29.844	29.818
27	29.904	29.877	29.886	29.916	29.862	29.829	29.870	29.888
28	29.912	29.921	29.921	29.974	29.963	29.938	29.979	30.022
29	30.106	30.130	30.181	30.240	30.281	30.286	30.330	30.361
30	30 384	30.407	30.440	30.500	30.491	30.500	30.490	30.485
31	30.500	30.479	30.450	30.453	30.393	30.340	30.320	30.296
Hourly means.	29.982	29.987	29.990	30.021	29.990	29.963	29.970	29.988

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
February 1	30.269	30.230	30.232	30.240	30.230	30.207	30.225	30.232
2	30.308	30.322	30.351	30.403	30.410	30.369	30.381	30.399
3	30.401	30.392	30.369	30.374	30.306	30.252	30.201	30.148
4	30.055	29.958	29.883	29.840	29.834	29.836	29.888	29.922
5	29.904	29.884	29.834	29.825	29.855	29.853	29.907	29.955
6	29.957	29.978	30.027	30.056	30.063	30.025	30.074	30.089
7	30.091	30.055	30.022	30.002	29.873	29.668	29.537	29.417
8	29.396	29.407	29.452	29.482	29.491	29.471	29.554	29.632
9	29.675	29.678	29.687	29.746	29.754	29.769	29.818	29.894
10	29.924	29.921	29.888	29.882	29.811	29.723	29.743	29.797
11	29.854	29.867	29.889	29.978	29.974	29.963	29.977	29.983
12	29.949	29.855	29.724	29.745	29.834	29.987	30.221	30.313
13	30.353	30.396	30.467	30.521	30.512	30.432	30.403	30.392
14	30.350	30.307	30.303	30.260	30.193	30.121	30.081	30.038
15	30.001	29.932	29.902	29.883	29.777	29.619	29.578	29.550
16	29.543	29.543	29.570	29.645	29.663	29.608	29.648	29.664
17	29.710	29.730	29.765	29.771	29.698	29.582	29.569	29.510
18	29.514	29.636	29.730	29.784	29.831	29.835	29.862	29.892
19	29.894	29.908	29.976	30.042	30.075	30.064	30.099	30.145
20	30.185	30.218	30.243	30.299	30.292	30.285	30.308	30.339
21	30.391	30.414	30.435	30.536	30.539	30.497	30.495	30.525
22	30.497	30.479	30.440	30.459	30.384	30.331	30.308	30.296
23	30.236	30.178	30.142	30.145	30.108	30.069	30.048	30.064
24	30.060	30.084	30.152	30.227	30.240	30.207	30.224	30.301
25	30.297	30.302	30.318	30.352	30.262	. . .	30.140	30.046
26	29.908	29.821	29.772	29.765	29.740	29.732	29.826	29.929
27	30.004	30.074	30.142	30.216	30.275	30.245	30.237	30.209
28	30.264	30.214	30.185	30.189	30.178	30.131	30.165	30.197
Hourly means.	30.035	30.028	30.032	30.059	30.043	29.995	30.018	30.031

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
March 1	30.238	30.250	30.285	30.348	30.350	30.330	30.332	30.373
2	30.370	30.344	30.331	30.313	30.275	30.203	30.172	30.140
3	30.106	30.058	30.022	30.031	30.004	29.940	29.973	29.963
4	29.843	29.673	29.566	29.476	29.603	29.668	29.902	30.081
5	30.135	30.158	30.173	30.233	30.207	30.156	30.163	30.192
6	30.208	30.242	30.264	30.317	30.304	30.269	30.273	30.309
7	30.286	30.298	30.292	30.303	30.212	30.123	30.066	30.081
8	30.064	30.051	30.051	30.070	30.051	29.965	30.018	29.936
9	29.884	29.825	29.734	29.720	29.707	29.682	29.683	29.636
10	29.578	29.571	29.557	29.705	29.824	29.855	29.985	30.068
11	30.093	30.104	30.126	30.187	30.118	30.024	30.028	30.074
12	30.087	30.147	30.207	30.290	30.267	30.182	30.171	30.158
13	30.132	30.127	30.153	30.203	30.176	30.134	30.142	30.186
14	30.206	30.232	30.266	30.285	30.253	30.210	30.209	30.230
15	30.195	30.175	30.149	30.171	30.083	30.010	29.999	29.991
16	29.991	29.960	29.930	29.884	29.794	29.668	29.560	29.490
17	29.696	29.808	29.966	30.048	30.028	29.991	29.946	29.909
18	29.926	29.864	29.848	29.917	30.053	30.103	30.171	30.261
19	30.262	30.275	30.315	30.333	30.272	30.149	30.100	30.101
20	30.055	30.006	30.008	30.012	29.976	29.906	29.879	29.866
21	29.846	29.822	29.814	29.790	29.716	29.625	29.565	29.422
22	29.326	29.312	29.386	29.407	29.412	29.400	29.433	29.522
23	29.528	29.548	29.577	29.548	. . .	29.334	29.457	29.496
24	29.498	29.515	29.535	29.573	29.592	29.593	29.604	29.708
25	29.736	26.743	29.778	29.867	29.855	29.840	29.895	29.932
26	29.962	29.999	30.036	30.101	30.139	30.143	30.192	30.264
27	30.298	30.313	30.320	30.353	30.315	30.303	30.187	30.218
28	30.175	30.163	30.151	30.175	30.157	30.111	30.136	30.161
29	30.153	30.155	30.160	30.197	30.142	30.046	30.016	30.026
30	29.957	29.872	29.756	29.681	29.598	29.413	29.390	29.273
31	29.330	29.268	29.252	29.271	29.259	29.279	29.408	29.505
Hourly means.	29.973	29.964	29.968	29.994	29.991	29.924	29.937	29.954

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
April 1	29.550	29.531	29.557	29.592	29.609	29.628	29.780	29.913
2	29.962	29.984	30.028	30.076	30.024	29.975	29.992	30.017
3	30.064	30.079	30.096	30.120	30.095	30.046	30.116	30.185
4	30.197	30.221	30.238	30.291	30.303	30.253	30.264	30.297
5	30.315	30.295	30.286	30.297	30.236	30.175	30.180	30.157
6	30.157	30.147	30.138	30.163	30.117	30.052	30.037	30.012
7	30.032	30.010	30.008	30.006	30.037	30.036	30.042	30.116
8	30.139	30.186	30.266	30.337	30.220	30.268	30.263	30.318
9	30.349	30.391	30.422	30.430	30.394	30.319	30.297	30.276
10	30.276	30.195	30.169	30.164	30.132	30.074	30.061	30.086
11	30.094	30.087	30.084	30.105	30.082	30.048	30.008	29.996
12	29.942	29.904	29.825	29.802	29.759	29.694	29.722	29.752
13	29.797	29.833	29.880	29.944	29.950	29.942	30.036	30.117
14	30.164	30.185	30.227	30.282	30.244	30.192	30.162	30.208
15	30.198	30.155	30.076	30.070	29.977	29.857	29.706	29.725
16	29.720	29.718	29.730	29.746	29.767	29.806	29.904	30.051
17	30.102	30.157	30.237	30.282	30.252	30.194	30.146	30.122
18	29.107	29.073	29.018	29.944	29.854	29.804	29.829	29.926
19	29.983	30.048	30.096	30.151	30.145	30.091	30.075	30.143
20	30.130	30.118	30.116	30.113	30.088	30.042	30.021	30.033
21	30.005	29.987	30.012	30.014	29.967	29.880	29.794	29.774
22	29.726	29.694	29.658	29.684	29.692	29.684	29.702	29.760
23	29.838	29.863	29.922	29.949	29.950	29.958	30.020	30.107
24	30.114	30.119	30.163	30.210	30.195	30.125	30.129	30.185
25	30.217	30.226	30.264	30.257	30.216	30.148	30.131	30.147
26	30.147	30.111	30.112	30.112	30.054	29.936	29.971	29.977
27	29.984	29.977	29.997	30.012	29.987	29.924	29.914	29.955
28	29.973	29.975	29.997	30.014	29.994	29.923	29.889	29.911
29	29.906	29.856	29.825	29.813	29.723	29.651	29.696	29.746
30	29.811	29.834	29.848	29.870	29.861	29.807	29.799	29.779
Hourly means.	30.000	29.999	30.010	30.062	30.031	29.984	29.990	30.026

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
May 1	29.717	29.670	29.646	29.664	29.687	29.730	29.802	29.895
2	29.910	29.916	29.970	29.998	29.935	29.902	29.898	29.929
3	29.927	29.920	29.976	30.008	30.002	29.982	29.979	30.039
4	30.061	30.084	30.113	30.123	30.052	29.946	29.907	29.885
5	29.858	29.796	29.796	29.794	29.750	29.731	29.747	29.790
6	29.756	29.726	29.770	29.752	29.671	29.563	29.546	29.630
7	29.721	29.849	29.904	29.950	29.934	29.862	29.849	29.854
8	29.819	29.777	29.779	29.758	29.681	29.585	29.621	29.618
9	29.563	29.496	29.466	29.482	29.584	29.655	29.774	29.856
10	29.914	29.960	30.004	30.032	30.019	29.986	29.956	29.935
11	29.881	29.867	29.875	29.840	29.807	29.729	29.693	29.749
12	29.798	29.847	29.844	29.903	29.915	29.895	29.892	29.930
13	29.945	29.936	29.967	29.984	29.987	29.977	30.006	30.070
14	30.104	30.110	30.162	30.211	30.226	30.183	30.193	30.223
15	30.250	30.264	30.271	30.310	30.302	30.257	30.257	30.299
16	30.299	30.259	30.283	30.284	30.238	30.154	30.109	30.088
17	30.041	30.004	29.997	29.981	29.936	29.847	29.994	29.819
18	29.804	29.804	29.841	29.871	29.874	. . .	29.856	29.994
19	30.007	30.000	30.061	30.085	30.066	30.028	30.012	30.036
20	30.028	29.996	29.996	30.007	29.952	29.900	29.883	29.876
21	29.837	29.814	29.794	29.759	29.705	29.647	29.601	29.569
22	29.565	29.567	29.568	29.572	29.552	29.522	29.503	29.552
23	29.592	29.636	29.662	29.700	29.693	29.669	29.684	29.766
24	29.808	29.832	29.861	29.870	29.849	29.792	29.771	29.803
25	29.694	29.786	29.797	29.814	29.728	29.751	29.774	29.784
26	29.741	29.740	29.739	29.748	29.719	. . .	29.654	29.649
27	29.637	29.603	29.619	29.627	29.611	29.602	29.595	29.607
28	29.611	29.631	29.611	29.618	29.610	29.625	29.645	29.700
29	29.710	29.716	29.762	29.806	29.822	29.834	29.888	29.951
30	29.957	29.957	30.017	30.039	30.030	30.010	30.000	30.046
31	30.063	30.060	30.045	30.090	30.061	30.036	30.005	30.013
Hourly means.	29.858	29.859	29.877	29.893	29.871	29.841	29.842	29.869

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
June 1	29.987	29.954	29.959	29.965	29.943	29.896	29.882	29.892
2	29.900	29.876	29.909	29.927	29.926	29.886	29.867	29.912
3	29.917	29.936	29.980	30.014	30.011	29.985	29.964	29.998
4	29.981	29.996	30.025	30.032	29.994	29.954	29.947	29.958
5	29.962	29.960	29.984	30.029	30.014	29.976	29.964	30.013
6	30.094	30.134	30.171	30.204	30.213	30.183	30.179	30.209
7	30.181	30.157	30.179	30.181	30.124	30.028	30.032	30.028
8	30.019	30.008	30.000	30.013	30.003	29.962	29.975	29.994
9	30.004	30.003	30.010	30.019	29.978	29.924	29.906	29.944
10	29.921	29.897	29.885	29.883	29.862	29.820	29.854	29.903
11	29.903	29.909	29.951	29.998	30.006	29.983	29.953	29.972
12	29.967	29.959	29.961	29.954	29.933	29.874	29.782	29.858
13	29.854	29.843	29.875	29.901	29.904	29.872	29.914	29.923
14	29.935	29.918	29.956	29.970	29.977	29.975	29.972	30.019
15	30.074	30.072	30.119	30.166	30.185	30.154	30.166	30.176
16	30.183	30.157	30.173	30.192	30.170	30.104	30.111	30.131
17	30.109	30.096	30.121	30.136	30.118	30.080	30.061	30.093
18	30.058	30.051	30.046	30.060	30.022	29.958	29.956	29.975
19	29.979	29.962	29.957	29.986	29.946	29.891	29.952	29.964
20	29.930	29.948	29.973	29.984	29.962	29.962	30.003	29.983
21	29.983	29.976	29.996	30.030	30.020	30.002	29.975	30.008
22	29.988	29.948	29.980	29.983	30.078	29.968	29.970	30.016
23	30.023	30.031	30.078	30.104	30.094	30.072	30.075	30.107
24	30.089	30.098	30.088	30.114	30.110	30.156	30.030	30.055
25	30.020	30.022	30.004	30.009	29.966	29.896	29.855	29.855
26	29.822	29.780	29.743	29.710	29.672	29.641	29.641	29.695
27	29.750	29.764	29.828	29.888	29.883	. . .	29.862	29.905
28	29.945	29.958	30.016	30.025	30.032	30.002	29.988	29.990
29	29.976	29.987	29.999	29.982	29.958	29.906	29.892	29.904
30	29.988	29.859	29.892	29.890	29.883	29.810	29.789	29.830
Hourly means.	29.985	29.975	29.995	30.012	29.999	29.963	29.951	29.977

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
July 1	29.875	29.858	29.890	29.909	29.890	29.837	29.808	29.822
2	29.782	29.776	29.812	29.840	29.849	29.839	29.868	29.930
3	29.961	29.962	30.021	30.080	30.064	29.999	30.002	30.020
4	30.012	30.024	30.038	30.046	30.037	29.996	29.926	29.946
5	29.935	29.910	29.928	29.991	29.978	29.964	29.964	29.993
6	30.038	30.055	30.098	30.131	30.108	30.053	30.048	30.022
7	30.000	29.953	29.938	29.932	29.895	29.851	29.840	29.877
8	29.873	29.872	29.952	29.908	29.868	29.864	29.813	29.838
9	29.875	29.808	29.858	29.904	29.910	29.890	29.898	29.936
10	29.962	29.984	30.032	30.042	30.033	29.968	29.912	29.898
11	29.840	29.794	29.788	29.798	29.780	29.762	29.727	29.813
12	29.818	29.814	29.831	29.828	29.846	29.838	29.825	29.856
13	29.836	29.857	. . .	29.882	29.895	29.898	29.910	29.972
14	29.906	. . .	29.057	30.094	30.063	30.016	29.990	30.012
15	30.007	29.990	30.015	30.016	30.014	29.957	29.927	29.950
16	29.933	29.994	29.874	29.866	29.821	29.751	29.700	29.705
17	29.668	29.620	29.628	29.723	29.791	29.808	29.810	29.856
18	29.866	29.881	29.940	29.949	29.939	29.909	29.878	29.886
19	29.875	29.864	29.864	29.831	29.764	29.718	29.664	29.691
20	29.689	29.730	29.781	29.819	29.858	29.862	29.882	29.942
21	29.947	29.970	29.986	30.017	30.014	29.995	29.967	29.994
22	29.938	29.908	29.942	30.864	29.952	29.944	29.943	29.992
23	30.026	30.037	30.036	30.038	30.026	29.984	29.965	29.991
24	29.971	29.968	29.999	29.010	29.984	29.959	29.949	29.975
25	29.950	29.917	29.922	29.924	29.096	29.848	29.800	29.847
26	29.844	29.858	29.913	29.924	29.923	29.900	29.871	29.901
27	29.907	29.890	29.928	29.931	29.910	29.864	29.842	29.914
28	29.861	29.875	29.908	29.911	29.906	29.860	29.807	29.817
29	29.813	29.810	29.842	29.884	29.879	29.834	29.884	29.944
30	29.958	29.998	30.993	30.045	30.069	30.066	30.084	30.098
31	30.119	30.123	30.179	30.216	30.246	30.226	30.204	30.243
Hourly means.	29.906	29.903	29.933	29.946	29.942	29.912	29.894	29.925

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
August 1	30.247	30.251	30.271	30.292	30.269	30.215	30.214	30.260
2	30.252	30.243	30.264	30.295	30.263	30.219	30.189	30.227
3	30.203	30.193	30.213	30.213	30.175	30.129	30.101	30.103
4	30.110	30.116	30.107	30.115	30.091	. . .	30.008	30.039
5	30.042	30.018	30.029	30.067	30.049	29.990	29.980	29.970
6	29.956	29.953	29.948	29.924	29.866	29.787	29.786	29.792
7	29.745	29.710	29.722	29.744	29.742	. . .	29.756	29.838
8	29.897	29.928	29.952	30.011	30.017	29.878	29.868	29.992
9	29.911	29.901	30.010	30.026	29.990	29.963	29.931	29.938
10	29.915	29.894	29.890	29.851	29.873	29.874	29.944	29.949
11	29.737	29.727	29.758	29.773	29.762	29.731	29.752	29.782
12	29.798	29.831	29.852	29.880	29.878	29.882	29.890	29.926
13	29.951	29.964	30.012	30.020	30.020	29.983	29.999	30.001
14	29.990	29.987	30.010	30.023	29.987	29.956	29.925	29.934
15	29.920	29.886	29.891	29.906	29.867	29.836	29.828	29.852
16	29.841	29.828	29.842	29.883	29.853	. . .	29.818	29.851
17	29.862	29.867	29.904	29.940	29.937	. . .	29.924	29.951
18	29.943	29.956	29.968	30.011	30.004	. . .	29.974	30.000
19	29.991	29.986	29.999	30.030	30.013	29.872	29.958	29.972
20	29.985	29.992	29.992	30.004	29.970	29.904	29.875	29.902
21	29.887	29.843	29.841	29.841	29.778	29.716	29.685	29.682
22	29.703	29.666	29.668	29.680	29.654	29.565	29.504	29.600
23	29.728	29.766	29.789	29.849	29.852	. . .	29.889	29.944
24	29.985	30.002	30.059	30.112	30.108	30.083	30.085	30.132
25	30.161	30.172	30.213	30.226	30.204	30.126	30.144	30.195
26	30.174	30.189	30.197	30.189	30.176	30.147	30.038	30.051
27	30.049	30.032	30.017	30.023	29.997	29.942	29.930	29.881
28	30.038	29.954	30.029	30.083	30.034	30.056	29.969	29.983
29	29.986	29.994	30.013	30.047	30.055	. . .	30.052	30.061
30	30.054	30.058	30.146	30.183	30.177	30.140	30.137	30.180
31	30.199	30.200	30.221	30.274	30.207	30.151	30.118	30.148
Hourly means.	29.976	29.971	29.994	30.017	29.996	29.964	29.944	29.972

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
September 1	30.132	30.104	30.100	30.099	30.044	29.981	. . .	29.973
2	29.946	29.917	29.912	29.921	29.890	29.847	29.827	29.862
3	29.877	29.890	29.896	29.919	29.904	29.856	29.902	29.907
4	29.913	29.927	29.946	29.962	29.944	29.912	29.929	29.946
5	29.958	29.949	29.949	29.986	29.962	29.880	29.867	29.890
6	29.872	29.849	29.858	29.870	29.839	29.786	29.783	29.828
7	29.830	29.852	29.875	29.899	29.908	29.843	29.743	29.864
8	29.870	29.868	29.879	29.879	29.860	29.818	29.828	29.876
9	29.880	29.932	29.978	30.019	30.048	30.019	30.032	30.066
10	30.077	30.086	30.112	30.104	30.083	29.996	30.014	30.018
11	29.990	29.979	29.993	30.001	29.996	29.948	29.929	29.971
12	29.980	29.970	29.990	30.030	30.024	29.999	30.025	30.091
13	30.112	30.104	30.145	30.206	30.159	30.147	30.144	30.166
14	30.187	30.156	30.155	30.173	30.129	30.051	30.031	30.046
15	30.025	30.018	30.032	30.058	30.048	30.005	30.012	30.071
16	30.109	30.146	30.191	30.227	30.208	30.173	30.170	30.181
17	30.164	30.152	30.135	30.116	30.058	29.970	29.930	29.902
18	29.885	29.821	29.789	29.745	29.726	29.708	29.756	29.915
19	30.024	30.056	30.084	30.172	30.171	30.146	30.169	. . .
20	30.228	30.238	30.274	30.294	30.271	30.218	30.180	30.187
21	30.170	30.163	30.178	30.195	30.154	30.082	30.064	30.092
22	30.099	30.086	30.102	30.140	30.114	30.071	30.075	30.107
23	30.139	30.151	30.193	30.228	30.236	30.200	30.184	30.228
24	30.241	30.230	30.230	30.236	30.162	30.098	30.060	30.073
25	30.041	30.004	29.992	29.999	29.960	29.911	29.898	29.911
26	29.952	29.979	30.002	30.072	30.064	30.043	30.091	30.156
27	30.187	30.250	30.296	30.244	30.237	30.309	30.300	30.338
28	30.351	30.343	30.326	30.346	30.305	30.244	30.233	30.236
29	30.210	30.197	30.192	30.198	30.128	30.061	30.058	30.043
30	30.022	29.979	29.986	29.970	29.905	29.840	29.845	29.869
Hourly means.	30.048	30.046	30.067	30.077	30.051	30.005	30.003	30.022

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
October 1	29.875	29.880	29.879	29.890	29.833	29.770	29.709	29.784
2	29.787	29.793	29.762	29.762	29.724	29.694	29.713	29.786
3	29.807	29.827	29.837	29.857	29.817	29.862	29.759	29.762
4	29.744	29.733	29.738	29.783	29.782	29.776	29.816	29.819
5	29.795	29.816	29.854	29.888	29.880	29.878	29.918	30.007
6	30.028	30.036	30.117	30.126	30.130	30.124	30.163	30.187
7	30.208	30.202	30.192	30.200	30.134	30.063	30.044	30.023
8	30.008	29.990	30.011	30.002	29.975	29.922	29.902	29.929
9	29.934	29.920	29.957	29.982	29.954	29.916	29.888	29.918
10	29.940	29.935	29.971	29.972	29.967	29.902	29.901	29.940
11	29.946	29.947	29.962	29.987	29.952	29.887	29.843	29.849
12	29.829	29.816	29.816	29.843	29.831	29.903	29.886	29.968
13	30.013	30.040	30.079	30.092	30.037	29.974	29.971	29.979
14	29.907	29.864	29.828	29.770	29.670	29.579	29.497	29.388
15	29.300	29.301	29.327	29.382	29.392	29.432	29.493	29.582
16	29.656	29.706	29.824	29.908	29.934	29.940	30.004	30.090
17	30.106	30.118	30.130	30.143	30.090	30.024	29.994	29.984
18	29.946	29.894	29.907	29.897	29.814	29.725	29.665	29.529
19	29.398	29.374	29.387	29.422	29.413	29.382	29.406	29.420
20	29.418	29.424	29.511	29.571	29.569	29.581	29.646	29.707
21	29.720	29.790	29.838	29.903	29.896	29.885	29.958	30.052
22	30.090	30.112	30.189	30.221	30.188	30.124	30.100	30.089
23	30.059	30.017	30.025	30.042	30.021	29.993	30.034	30.086
24	30.077	30.114	30.155	30.190	30.145	30.123	30.134	30.140
25	30.129	30.142	30.144	30.199	30.155	30.146	30.166	30.166
26	30.150	30.144	30.156	30.176	30.127	. . .	30.099	30.106
27	30.088	30.074	30.070	30.063	29.997	29.936	29.897	29.870
28	29.763	29.711	29.671	29,674	29.647	29.637	29.671	29.773
29	29.885	29.876	29 930	30.081	30.070	30.062	30.105	30.135
30	30.309	30.341	30.395	30.438	30.409	30.372	30.365	30.360
31	30.366	30.312	30.246	30.247	30.224	30.202	30.220	30.263
Hourly means.	29.912	29.911	29.933	29.958	29.928	29.893	29.902	29.926

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
November 1	30.270	30.269	30.304	30.331	30.276	30.236	30.247	30.218
2	30.140	30.106	30.107	30.117	30.043	29.995	29.930	29.930
3	29.980	30.004	30.034	30.071	30.042	30.031	30.015	29.992
4	29.957	29.888	29.872	29.795	29.690	29.627	29.562	29.576
5	29.637	29.651	29.709	29.736	29.770	29.842	29.973	30.053
6	30.080	30.119	30.136	30.139	30.041	29.892	29.860	29.940
7	29.944	30.051	30.143	30.215	30.255	30.273	30.351	30.403
8	30.425	30.443	30.461	30.484	30.423	30.337	30.301	30.291
9	30.245	30.200	30.180	30.203	30.170	30.141	30.229	30.288
10	30.307	30.323	30.369	30.411	30.386	30.372	30.414	30.482
11	30.570	30.539	30.559	30.599	30.563	30.515	30.527	30.525
12	30.500	30.481	30.477	30.511	30.454	30.375	30.344	30.332
13	30.273	30.215	30.185	30.188	30.103	30.020	30.013	30.025
14	29.976	29.942	29.947	30.017	29.963	29.908	29.903	29.890
15	29.917	29.896	29.922	29.998	29.951	29.902	29.903	29.966
16	29.980	29.997	30.007	30.064	30.006	29.995	29.986	29.982
17	29.960	29.916	29.908	29.886	29.836	29.821	29.846	29.878
18	29.899	29.922	29.968	30.018	29.981	29.942	29.944	30.000
19	29.964	29.955	29.949	30.012	30.022	30.033	30.070	30.116
20	30.129	30.126	30.132	30.161	30.107	30.070	30.024	29.984
21	29.848	29.696	29.708	29.697	29.642	29.603	29.623	29.584
22	29.550	29.546	29.540	29.568	29.541	29.552	29.586	29.611
23	29.617	29.614	29.614	29.634	29.618	29.641	29.703	29.751
24	29.785	29.818	29.856	29.919	29.907	29.901	29.939	29.946
25	29.948	29.864	29.869	29.965	29.914	29.880	29.861	29.861
26	29.862	29.914	29.958	29.990	29.963	29.946	29.956	29.987
27	29.918	29.902	29.904	29.964	29.929	29.937	29.919	29.992
28	30.014	30.094	30.168	30.196	30.157	30.121	30.133	30.126
29	29.998	29.990	29.937	29.987	29.909	29.868	29.804	29.809
30	29.783	29.823	29.807	29.884	29.838	29.739	29.538	29.628
Hourly means.	30.014	30.010	30.024	30.058	30.017	29.984	29.983	30.039

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
December 1	29.450	29.458	29.599	29.642	29.692	29.699	29.692	29.787
2	29.839	29.866	29.939	29.943	29.867	29.804	29.806	29.828
3	29.917	29.866	29.947	29.989	. . .	29.940	30.002	30.023
4	30.002	30.004	30.010	30.056	30.032	29.983	29.965	29.984
5	29.952	30.061	30.135	30.191	30.172	30.185	30.215	30.251
6	30.241	30.247	30.238	30.265	30.192	30.114	30.098	30.034
7	29.862	29.788	29.655	29.654	29.600	29.657	29.798	29.869
8	30.008	30.102	30.188	30.283	30.273	30.287	30.324	30.342
9	30.334	30.336	30.329	30.313	30.236	30.117	30.026	29.967
10	29.910	29.886	29.956	29.993	29.979	29.958	29.973	30.001
11	30.006	30.025	30.053	30.059	30.046	30.047	30.056	30.057
12	29.999	29.959	29.934	29.958	29.891	29.868	29.887	29.879
13	29.954	29.971	30.031	30.193	30.168	30.171	30.188	30.179
14	30.150	30.121	30.133	30.208	30.180	30.180	30.249	30.309
15	30.337	30.329	30.285	30.379	30.325	30.285	30.298	30.293
16	30.181	30.265	30.265	30.288	30.224	30.179	30.090	30.114
17	30.059	30.063	30.067	30.155	30.142	30.149	30.208	30.226
18	30.268	30.278	30.271	30.286	30.275	30.233	30.207	30.190
19	30.062	29.938	29.881	29.864	29.779	29.742	29.768	29.772
20	29.799	29.884	29.948	30.002	29.941	29.942	29.800	29.695
21	29.552	29.387	29.438	29.768	29.896	29.987	30.120	30.205
22	30.250	30.271	30.254	30.274	30.214	30.192	30.264	30.365
23	30.443	30.497	30.525	30.624	30.487	30.541	30.516	30.477
24	30.396	30.265	30.135	30.071	29.905	29.764	29.661	29.663
25	29.683	29.723	29.760	29.930	29.915	29.917	29.943	29.950
26	29.941	29.931	29.970	29.991	29.966	29.888	29.809	29.757
27	29.738	29.696	29.660	29.747	29.764	29.866	29.991	30.096
28	30.104	30.076	30.057	30.027	29.954	29.955	29.964	30.040
29	30.080	30.160	30.226	30.347	30.343	30.341	30.344	30.368
30	30.318	30.270	30.264	30.214	30.136	30.121	30.100	30.171
31	30.226	30.260	30.324	30.422	30.385	30.343	30.313	30.290
Hourly means.	30.035	30.032	30.048	30.101	30.066	30.047	30.054	30.070

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
January	1	23.0	18.0	20.0	22.0	26.5	27.0	21.8	19.0
	2	19.0	18.0	17.0	19.0	27.5	28.5	27.5	25.7
	3	24.0	22.0	21.0	23.5	32.0	31.0	27.5	26.6
	4	25.0	22.0	21.0	26.6	30.2	30.6	27.0	26.0
	5	18.0	17.0	16.0	19.7	31.0	34.0	30.6	31.4
	6	30.5	30.8	35.0	37.0	38.5	38.5	40.2	39.3
	7	37.0	37.0	37.5	38.2	34.7	29.0	27.5	22.0
	8	19.0	17.0	13.5	16.0	25.8	28.4	24.2	21.7
	9	22.0	22.8	23.6	26.0	35.5	38.0	35.6	35.0
	10	33.5	35.0	36.5	41.6	40.0	37.4	46.0	49.2
	11	43.5	34.0	30.0	29.4	33.0	34.0	30.0	27.0
	12	25.0	26.5	27.5	29.0	34.5	42.0	35.0	32.0
	13	29.5	26.0	26.0	37.5	47.0	47.0	39.8	37.5
	14	36.4	36.0	36.2	38.0	41.5	36.0	34.3	32.6
	15	30.5	30.0	27.0	29.1	34.5	39.7	34.6	32.0
	16	30.5	33.1	29.0	29.8	31.2	34.0	27.5	25.0
	17	23.0	22.0	22.5	26.0	30.0	35.0	31.5	27.5
	18	25.6	21.4	19.5	21.0	33.0	25.3	24.5	20.5
	19	18.0	13.2	14.5	18.5	24.2	25.3	23.8	23.2
	20	20.0	17.0	15.0	19.5	31.6	36.5	29.7	24.5
	21	23.5	23.0	23.4	25.0	25.5	27.8	31.0	30.5
	22	30.0	30.0	28.5	29.6	32.0	32.5	31.9	32.0
	23	33.0	32.5	32.5	33.0	33.3	34.5	35.5	34.5
	24	31.5	30.0	26.5	27.5	27.4	28.0	24.5	22.0
	25	19.5	18.0	15.7	18.2	23.4	24.2	20.5	17.0
	26	16.7	16.5	16.0	19.0	22.0	23.5	19.0	17.6
	27	14.5	12.9	13.5	14.2	19.0	19.2	16.0	13.5
	28	13.5	13.0	9.3	10.4	16.4	19.0	15.6	19.0
	29	23.0	24.0	23.0	27.0	30.2	31.2	30.0	29.3
	30	28.5	24.0	22.0	24.0	33.2	36.5	31.5	26.4
	31	23.0	22.0	18.5	23.0	37.2	42.0	39.0	37.0
Hourly means.		25.47	24.02	23.14	25.75	31.03	32.12	29.45	27.63

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
February	1	34.0	32.0	30.0	34.4	41.0	42.6	38.2	34.7
	2	32.5	30.0	28.4	32.5	39.8	40.5	32.0	28.0
	3	23.0	22.0	21.5	26.0	32.0	32.6	30.4	31.0
	4	32.0	32.4	32.6	32.8	40.0	43.4	42.0	36.5
	5	37.2	35.8	37.0	37.0	35.0	33.0	29.5	26.3
	6	23.5	22.5	21.6	25.0	31.0	34.0	29.5	26.0
	7	23.5	24.0	25.5	25.0	25.6	26.0	31.8	28.0
	8	27.0	26.0	25.2	28.0	34.4	35.7	29.8	27.5
	9	24.2	24.0	23.0	26.5	28.2	28.2	24.2	21.5
	10	18.5	15.5	12.8	20.0	27.0	36.4	34.5	33.0
	11	33.5	32.0	29.0	29.5	33.6	36.0	30.7	27.8
	12	26.0	26.5	26.5	27.0	26.0	24.0	19.6	17.0
	13	13.5	9.5	5.5	9.0	15.9	20.0	15.0	11.5
	14	7.6	5.5	4.2	12.0	30.0	34.7	30.0	27.0
	15	25.5	26.5	28.5	30.0	31.8	33.0	32.7	33.4
	16	33.0	32.6	32.5	33.0	35.0	35.3	34.0	33.6
	17	33.5	31.7	25.6	27.4	36.6	37.2	33.5	32.6
	18	33.0	32.5	33.5	35.7	40.0	40.5	38.3	37.5
	19	37.0	35.9	35.7	37.2	40.2	42.5	37.0	30.5
	20	30.5	26.5	25.5	32.5	39.0	42.0	35.6	29.0
	21	30.0	27.0	22.0	31.8	48.8	44.5	35.5	30.0
	22	27.5	24.5	26.0	30.4	40.0	43.5	41.8	39.3
	23	38.9	39.0	39.0	42.8	45.0	45.8	43.5	42.0
	24	39.0	40.0	34.5	38.0	45.7	48.5	38.4	33.5
	25	30.8	30.0	30.2	32.2	35.6	. .	34.5	35.5
	26	35.6	35.2	35.5	42.5	57.5	65.5	56.2	51.0
	27	45.0	43.2	45.0	43.2	51.0	52.0	45.4	41.7
	28	38.5	37.5	37.0	38.5	48.0	45.0	41.5	36.0
Hourly means.		29.78	28.56	27.62	30.71	36.92	38.61	34.47	31.48

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
March	1	32.0	32.0	31.8	35.5	39.0	39.6	36.0	36.7
	2	36.5	35.0	33.5	35.0	36.5	38.7	39.0	38.6
	3	38.5	38.0	38.0	38.5	41.0	42.2	43.0	42.7
	4	41.2	42.0	42.3	46.6	44.5	60.5	45.6	40.2
	5	36.0	33.0	31.0	36.6	44.0	44.2	37.8	31.0
	6	28.8	28.0	27.5	33.0	46.0	50.0	42.2	35.6
	7	32.2	32.0	31.0	40.2	50.0	52.5	47.8	43.0
	8	41.0	40.0	38.8	46.3	59.0	58.5	53.5	53.5
	9	51.0	50.8	52.0	54.5	61.0	64.0	59.4	55.5
	10	54.0	50.0	42.2	34.3	33.0	38.0	32.2	28.4
	11	25.6	23.0	22.5	29.2	36.4	41.6	39.7	35.0
	12	34.8	34.0	34.0	43.5	51.5	60.2	51.6	45.6
	13	48.0	45.0	45.5	53.2	66.0	68.4	61.0	54.6
	14	50.5	49.0	47.0	57.0	68.7	66.8	59.5	56.5
	15	56.3	56.2	56.0	57.0	61.5	62.5	63.8	63.0
	16	60.0	60.5	61.5	67.2	68.6	69.0	66.5	66.5
	17	40.0	39.8	37.0	45.4	55.5	59.0	60.0	56.0
	18	53.5	45.0	45.0	59.8	58.5	57.4	50.5	43.0
	19	37.8	37.0	35.0	46.5	55.5	61.5	57.0	49.0
	20	46.4	44.0	42.0	48.2	60.2	66.8	67.8	60.2
	21	56.0	55.0	54.0	61.9	68.5	68.5	60.3	60.5
	22	60.6	60.0	50.0	53.2	52.5	54.0	53.0	49.5
	23	47.5	44.6	44.2	51.0	. .	60.2	47.5	43.0
	24	42.0	40.0	35.0	38.0	43.0	44.0	42.5	41.5
	25	41.0	40.0	38.9	43.0	45.6	44.5	40.0	38.0
	26	37.5	35.0	33.0	37.2	40.7	45.4	42.2	36.5
	27	33.0	33.0	31.5	41.5	52.0	56.0	51.2	44.5
	28	41.5	41.0	41.2	46.5	58.7	61.0	55.5	50.6
	29	46.5	44.6	43.5	51.0	62.2	67.5	61.0	57.8
	30	60.0	58.0	56.5	58.0	61.0	61.0	60.0	56.5
	31	50.5	48.0	48.7	52.4	55.5	54.5	51.0	49.5
Hourly means.		43.88	42.37	40.97	46.49	52.54	55.35	50.91	47.18

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
April	1	48.0	45.0	46.5	55.0	58.5	60.5	53.0	46.3
	2	43.5	41.0	40.0	50.5	57.6	64.5	59.5	49.0
	3	46.0	44.5	43.5	53.0	59.5	57.0	54.6	51.0
	4	46.0	46.5	46.8	48.5	59.5	61.5	59.2	56.5
	5	52.5	49.5	49.5	54.0	67.2	68.0	64.0	59.0
	6	59.2	58.7	58.0	59.0	62.5	68.0	64.2	62.5
	7	65.0	62.5	61.5	63.5	60.5	55.5	54.0	51.0
	8	50.0	45.5	42.0	48.0	53.0	57.0	54.0	47.5
	9	44.0	42.0	40.5	46.5	52.9	53.1	50.0	49.0
	10	45.1	42.8	43.0	45.0	47.5	48.8	50.0	48.0
	11	47.4	47.0	47.5	50.0	52.0	53.7	53.0	53.0
	12	53.5	56.0	58.7	61.5	67.0	70.5	63.7	63.0
	13	61.5	54.0	51.6	52.5	58.5	61.5	54.0	51.2
	14	43.0	42.5	41.5	56.6	63.0	68.2	65.0	54.0
	15	48.5	47.6	40.5	53.0	56.5	55.0	54.5	56.0
	16	56.0	54.7	53.5	59.5	64.5	63.0	58.4	48.0
	17	42.0	38.2	36.4	47.5	53.0	59.0	53.5	47.0
	18	46.0	48.0	51.0	60.0	69.0	73.6	71.0	61.8
	19	62.0	51.0	46.3	64.5	70.2	72.5	66.6	55.6
	20	53.5	52.0	51.5	59.0	55.5	54.0	52.8	52.8
	21	52.1	51.8	51.0	51.0	54.5	65.0	61.5	60.0
	22	58.0	59.0	63.0	63.0	67.6	67.5	62.5	58.0
	23	49.0	47.0	43.5	46.0	48.0	48.2	46.0	41.0
	24	36.5	36.7	37.5	54.2	62.2	68.6	67.0	54.0
	25	48.6	43.0	44.5	64.0	74.0	75.0	67.6	58.8
	26	55.0	51.8	48.0	63.0	73.6	72.5	62.5	60.0
	27	58.5	55.4	55.5	65.5	75.0	79.5	72.0	64.0
	28	60.0	57.5	59.0	67.8	76.2	76.6	72.5	65.0
	29	62.0	60.0	61.0	66.0	72.8	72.0	56.4	54.0
	30	53.0	52.0	49.0	53.8	59.5	62.0	59.0	57.0
Hourly means.		51.51	49.44	49.03	56.05	61.71	63.73	59.40	54.46

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
May	1	51.5	50.0	50.0	51.0	58.0	58.0	55.5	48.0
	2	44.0	42.0	37.5	51.5	59.5	61.0	58.0	49.2
	3	46.0	43.0	48.0	58.7	63.0	63.0	54.2	56.5
	4	47.0	42.0	41.5	60.6	67.5	67.2	65.0	60.5
	5	57.8	56.2	56.5	60.0	66.0	75.0	70.6	64.0
	6	61.5	61.0	63.0	68.2	77.5	82.3	80.5	76.0
	7	70.0	56.6	56.8	59.5	64.5	72.0	68.2	61.8
	8	58.0	58.4	58.5	64.2	79.0	81.4	71.0	69.5
	9	67.0	64.5	65.0	66.4	59.0	60.0	58.4	56.0
	10	55.6	54.3	54.7	56.6	60.5	60.0	58.0	58.0
	11	59.0	59.5	60.5	71.5	78.0	78.0	66.0	57.5
	12	49.5	47.2	44.5	50.5	59.2	63.5	62.5	52.0
	13	48.0	46.0	45.0	59.5	68.0	70.1	68.5	58.6
	14	52.5	51.2	50.5	65.5	71.2	71.0	65.7	60.5
	15	55.0	52.0	51.5	70.0	75.0	76.8	70.5	61.5
	16	56.0	55.5	52.0	66.6	76.6	78.6	74.5	65.5
	17	62.0	60.5	60.3	74.0	82.0	85.3	81.2	70.0
	18	65.5	64.0	63.5	75.4	83.0	. .	69.0	58.0
	19	57.5	56.5	57.4	59.0	64.2	69.5	69.5	66.8
	20	66.0	66.8	67.5	71.0	72.0	71.0	70.5	68.7
	21	68.0	66.0	67.6	69.0	71.5	76.5	71.0	66.0
	22	68.0	66.5	66.3	71.8	77.6	83.2	79.5	72.0
	23	68.5	65.0	59.5	68.0	72.3	75.0	71.0	60.6
	24	55.5	53.0	49.5	61.5	66.2	72.0	68.5	58.5
	25	58.0	56.5	59.0	64.0	73.0	76.0	69.8	68.0
	26	61.9	61.5	61.0	59.0	58.0	. .	58.0	56.7
	27	56.0	54.0	53.0	59.0	60.0	60.5	59.3	56.6
	28	55.5	53.0	53.2	62.0	67.0	70.0	66.0	60.0
	29	57.5	55.6	53.8	64.0	69.8	71.5	70.0	60.0
	30	60.0	58.0	57.0	70.4	76.3	79.5	76.5	67.0
	31	63.0	58.4	58.3	72.0	79.0	78.0	72.2	66.8
Hourly means.		58.11	56.28	55.56	63.88	69.50	71.93	67.71	61.64

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
June	1	63.0	60.6	59.8	70.5	81.5	83.5	80.0	70.5
	2	66.5	64.0	63.6	75.3	85.0	89.0	83.0	72.5
	3	67.6	67.0	65.5	75.5	82.6	86.2	85.0	73.0
	4	69.6	67.2	67.8	75.5	87.0	89.0	85.3	76.5
	5	76.0	74.0	70.0	80.6	89.6	92.6	87.5	78.5
	6	70.0	66.0	64.5	65.5	68.5	69.0	67.4	66.3
	7	65.2	65.0	65.5	69.2	77.0	82.0	72.5	71.0
	8	70.5	70.0	69.5	78.0	85.0	86.0	79.8	73.8
	9	71.4	70.0	70.0	79.6	86.2	89.3	84.0	76.6
	10	74.3	74.0	73.2	77.0	83.0	69.0	72.0	68.5
	11	68.0	67.0	66.0	67.2	73.6	79.0	77.2	69.0
	12	65.5	63.5	65.6	71.5	79.0	82.0	80.8	74.0
	13	73.5	73.0	73.0	75.4	80.5	81.8	71.5	71.5
	14	73.0	70.0	70.8	79.0	81.5	77.5	71.4	70.0
	15	67.5	67.0	65.6	66.5	70.0	72.8	69.8	69.0
	16	66.5	65.8	66.8	70.0	75.8	79.7	78.0	73.5
	17	72.0	72.5	73.0	75.0	82.0	86.5	80.0	75.0
	18	72.5	72.0	71.5	76.5	85.5	84.5	83.4	74.5
	19	72.5	72.0	71.5	79.0	88.0	88.5	73.5	72.3
	20	71.0	70.5	72.0	78.0	78.5	76.0	70.5	68.3
	21	68.5	68.0	68.0	75.3	78.5	80.5	77.0	71.0
	22	68.0	66.0	66.6	77.2	83.5	74.5	81.0	73.0
	23	70.0	66.0	67.5	78.5	84.1	86.0	83.2	75.0
	24	71.0	69.5	68.5	80.8	85.5	88.5	85.0	74.3
	25	72.0	69.0	70.0	78.5	85.4	80.5	78.5	74.8
	26	73.6	73.0	72 5	74.5	74.3	78.5	68.5	67.4
	27	66.2	65.0	65.0	72.0	78.0	. .	80.0	72.5
	28	66.9	63.5	63.0	76.5	81.0	83.6	80.6	72.0
	29	69.5	69.6	71.5	81.0	87.5	89.5	86.8	78.5
	30	76.3	73.5	74.0	85.0	91.5	92.7	80.2	77.0
Hourly means.		69.94	68.47	68.39	75.47	81.64	82.69	78.45	72.66

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
July	1	73.0	72.5	72.8	78.5	83.5	83.0	82.0	73.0
	2	71.5	70.0	71.5	76.8	79.0	82.0	79.4	70.0
	3	64.0	62.0	62.5	74.0	79.0	83.6	80.0	70.3
	4	67.0	65.0	64.5	79.0	84.5	89.0	80.0	76.2
	5	75.0	73.5	74.0	82.0	81.0	86.0	83.5	76.0
	6	75.0	72.0	68.0	68.0	78.7	83.0	80.8	72.8
	7	71.5	70.8	73.0	86.5	92.3	95.5	93.4	84.0
	8	79.0	74.5	74.5	84.0	90.0	77.0	79.3	75.0
	9	74.5	70 0	71.0	76.4	81.3	78.5	80.8	71.8
	10	66.5	66.5	65.0	66.0	66.5	65.0	67.2	67.0
	11	68.0	64.5	65.0	68.4	77.4	84.5	82.8	70.8
	12	70.5	69.3	68.5	70.5	72.0	74.5	75.4	71.0
	13	70.0	69.0	. .	77.0	81.5	78.5	74.3	65.2
	14	59.5	. .	55.2	67.4	72.5	75.7	70.5	64.0
	15	59.0	56.5	59.4	69.4	68.5	72.2	71.5	69.5
	16	69.0	68.5	70.0	74.5	81.0	82.0	75.8	73.0
	17	72.6	72.0	69.0	69.5	70.5	72.5	76.0	66.5
	18	62.5	60.5	58.2	69.5	76.1	79.8	75.5	65.5
	19	63.5	62.1	63.0	76.5	81.2	81.5	80.0	77.0
	20	75.0	73.0	74.0	79.5	83.5	86.8	84.4	74.6
	21	71.2	70.0	70.5	81.5	89.0	92.4	86.6	81.0
	22	78.0	76.5	75.5	82.0	88.0	90.0	85.5	77.0
	23	73.0	70.0	71.5	78.0	82.5	83.0	83.5	74.5
	24	71.0	70.8	72.0	79.0	88.5	87.0	82.0	76.5
	25	75.0	74.0	73.5	83.5	85.5	91.0	87.0	79.0
	26	78.0	77.0	73.5	80.0	85.2	89.0	82.6	75.0
	27	70.0	69.0	70.5	79.0	80.6	89.5	85.3	77.0
	28	74.0	73.5	74.0	83.5	87.5	93.0	87.8	80.6
	29	80.0	76.0	75.0	85.5	90.5	88.3	75.0	71.0
	30	70.0	69.5	68.3	74.5	75.0	76.7	75.0	70.0
	31	66.2	65.0	67.0	75.8	77.6	81.2	77.0	72.5
Hourly means.		70.74	69.45	69.01	76.63	80.96	82.96	79.99	73.14

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
August	1	71.0	70.0	69.0	75.0	80.0	85.3	80.3	75.5
	2	73.0	71.8	74.0	80.0	87.5	77.6	81.0	77.0
	3	76.8	76.0	75.6	78.5	87.0	84.0	81.2	77.5
	4	75.5	73.5	72.5	78.0	87.4	. .	84.5	76.0
	5	75.0	74.5	72.0	79.6	83.0	88.5	83.0	81.0
	6	75.0	73.5	73.0	79.0	86.0	83.0	76.0	76.0
	7	72.5	72.0	72.0	75.5	75.0	. .	79.5	69.2
	8	65.3	64.0	62.5	74.0	79.0	80.0	78.5	67.5
	9	74.5	74.0	74.5	76.0	81.0	83.5	77.5	69.6
	10	66.0	64.5	66.0	75.0	76.5	76.8	77.0	73.5
	11	71.0	70.0	70.0	77.0	82.0	85.0	80.0	69.8
	12	66.8	65.2	64.0	71.0	76.5	76.0	73.0	66.5
	13	62.0	60.0	58.5	69.2	78.0	81.0	73.5	66.0
	14	63.0	61.5	63.5	70.0	77.4	76.0	76.5	70.5
	15	68.5	68.0	68.6	76.0	80.0	82.5	79.0	71.6
	16	68.0	66.0	66.8	73.4	85.5	. .	79.5	71.5
	17	69.0	68.0	68.0	73.0	79.0	. .	75.5	72.0
	18	69.8	68.0	68.0	71.5	76.5	. .	74.1	71.5
	19	70.0	66.0	64.5	72.0	81.2	85.0	81.0	71.5
	20	68.0	66.0	65.8	76.5	86.5	86.3	77.5	72.0
	21	71.0	70.0	68.6	77.0	89.0	93.0	86.5	75.6
	22	74.0	73.0	73.0	77.5	80.0	80.0	77.8	73.0
	23	60.0	55.0	53.0	64.8	71.3	. .	66.3	60.0
	24	58.0	54.5	53.0	63.5	70.4	71.5	70.0	59.0
	25	55.0	54.0	53.0	64.5	76.5	78.5	77.0	65.5
	26	58.3	57.3	55.0	68.0	85.0	84.5	80.0	69.5
	27	68.0	64.0	60.0	75.0	84.0	87.5	80.5	73.3
	28	68.5	63.3	61.8	71.0	78.5	81.5	74.0	68.7
	29	67.5	67.0	67.0	69.0	71.2	. .	74.0	68.8
	30	66.3	64.3	68.0	70.6	80.0	87.0	80.0	73.5
	31	72.0	70.5	70.0	77.4	86.0	83.5	80.5	74.0
Hourly means.		68.36	66.95	66.17	73.50	80.55	82.40	77.90	71.18

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
September	1	70.0	68.5	68.5	77.4	89.5	89.5	. .	75.0
	2	72.5	71.5	70.0	78.0	84.5	85.0	83.5	77.0
	3	74.2	73.0	73.5	80.0	92.6	94.0	84.0	79.5
	4	74.5	74.0	73.5	79.5	86.0	87.5	79.0	76.5
	5	75.0	73.0	73.5	76.2	85.5	91.0	80.5	77.5
	6	76.0	73.5	72.5	81.0	93.0	95.0	84.0	80.0
	7	75.5	75.0	74.5	82.0	88.5	87.6	81.0	75.5
	8	75.0	74.0	74.5	81.0	87.0	85.2	82.0	78.0
	9	75.3	74.0	71.0	71.2	72.4	74.0	73.2	72 0
	10	71.5	71.0	69.0	73.0	76.5	84.0	78.5	75.5
	11	74.0	73.5	73.5	77.4	84.0	84.2	79.0	75.0
	12	73.5	73.0	73.0	80.0	86.0	91.5	81.6	76.2
	13	75.0	74.0	71.5	80.0	81.6	86.2	80.3	76.5
	14	75.5	75.0	73.8	79.0	87.5	85.0	81.0	76.5
	15	73.5	72.0	72.0	78.0	87.5	90.0	81.0	73.5
	16	69.0	68.0	62.5	75.0	83.0	84.3	72.5	65.5
	17	62.5	61.0	58.5	72.6	81.8	84.5	75.5	67.0
	18	65.5	64.2	64.2	74.5	78.0	72.5	68.5	59.0
	19	55.0	54.5	53.2	60.0	67.6	73.0	64.0	. .
	20	53.5	51.5	48.7	61.3	74.0	75.0	68.0	62.0
	21	61.0	58.0	58.0	67.2	81.4	83.0	74.2	67.8
	22	66.0	64.0	62.0	73.0	84.0	85.0	78.0	74.0
	23	67.0	63.5	63.5	70.4	82.0	81.5	72.8	66.0
	24	63.0	62.0	60.0	69.5	80.0	81.5	72.0	68.3
	25	68.0	66.2	65.4	67.4	75.4	76.8	73.0	71.0
	26	67.0	62.8	59.5	69.0	77.0	79.0	66.0	59.0
	27	55.2	52.6	51.5	64.5	76.4	76.8	66.0	59.0
	28	56.0	54.0	48.5	60.0	72.5	77.0	66.0	58.0
	29	53.8	51.0	49.0	60.0	77.8	81.5	72.0	62.5
	30	57.0	53.0	54.2	61.0	81.5	84.5	71.8	65.0
Hourly means.		67.68	66.04	64.77	72.64	81.82	83.52	75.48	70.63

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
October	1	62.5	60.2	60.5	64.6	71.8	75.3	67.5	58.0
	2	56.0	54.0	52.2	66.5	77.0	78.0	67.0	59.0
	3	54.0	47.0	46.4	59.0	64.6	61.2	58.0	53.5
	4	53.2	51.0	46.5	52.0	54.5	59.0	51.6	47.6
	5	47.6	44.2	42.5	51.6	59.5	59.0	55.0	49.0
	6	45.2	44.0	42.5	54.0	60.0	59.4	52.5	46.0
	7	42.0	40.0	38.5	52.0	68.2	73.5	60.3	55.4
	8	55.2	51.0	48.6	65.2	80.2	83.0	70.6	65.5
	9	59.0	58.6	55.2	67.5	79.0	83.0	72.2	60.0
	10	58.0	56.0	55.5	71.0	82.4	85.0	74.0	63.0
	11	59.0	57.0	54.8	68.0	82.1	82.2	71.0	64.2
	12	60.2	56.2	56.2	70.0	74.5	76.0	64.5	53.5
	13	49.0	45.5	42.0	49.0	55.4	56.0	51.0	51.5
	14	51.0	49.8	49.0	53.0	57.5	51.8	50.0	50.0
	15	51.0	51.0	51.0	51.4	53.0	55.4	54.3	52.5
	16	51.0	50.0	46.2	51.0	56.7	59.5	50.4	45.5
	17	43.0	39.0	38.5	48.0	62.5	62.5	55.8	53.5
	18	53.2	53.0	52.8	54.0	58.2	63.0	61.0	60.5
	19	58.0	48.0	48.9	53.0	54.5	58.5	53.0	45.5
	20	48.9	49.0	48.5	57.8	60.5	62.5	55.4	53.6
	21	50.6	48.0	46.5	54.6	60.2	62.0	54.0	44.0
	22	39.0	37.0	35.2	47.5	60.5	60.6	51.6	46.8
	23	46.5	47.0	47.0	49.7	64.3	72.0	59.0	54.0
	24	52.2	50.0	41.5	45.5	55.5	54.0	44.2	41.5
	25	38.8	37.2	36.8	47.5	59.5	60.5	48.5	42.5
	26	38.5	35.8	36.4	45.0	60.5	. .	50.5	47.2
	27	47.0	46.5	45.5	53.0	61.0	63.0	58.5	56.6
	28	57.2	60.2	60.0	64.6	67.5	65.0	56.0	48.0
	29	46.0	44.5	49.0	45.0	51.4	53.0	46.0	42.0
	30	36.2	33.0	32.5	44.0	54.0	56.0	45.5	42.0
	31	45.0	46.2	48.2	48.4	48.4	53.5	50.5	47.8
Hourly means		50.13	48.06	46.71	54.95	63.06	64.78	56.75	51.60

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
November	1	47.0	45.0	41.0	46.0	59.0	61.0	51.6	47.5
	2	47.0	48.0	49.0	52.0	55.6	55.3	55.0	54.5
	3	54.3	52.0	50.0	50.0	55.5	53.5	50.8	50.0
	4	49.0	48.5	49.0	48.4	49.5	49.4	48.5	47.5
	5	43.0	46.0	38.5	42.5	44.0	42.5	37.5	36.0
	6	35.5	31.5	31.7	40.6	50.8	54.0	45.0	44.5
	7	45.0	43.0	38.8	43.6	48.0	49.0	40.0	33.7
	8	30.6	29.0	28.0	38.0	48.2	49.8	41.4	38.0
	9	37.5	38.3	37.2	40.5	59.0	65.3	52.8	45.0
	10	44.5	40.0	33.8	44.2	50.0	53.6	42.0	36.5
	11	32.5	28.5	26.0	34.0	43.0	45.0	33.2	29.0
	12	27.0	25.5	24.5	30.2	46.2	49.0	40.5	36.0
	13	32.3	31.0	31.5	37.0	58.5	67.5	56.0	45.5
	14	38.0	34.5	32.5	40.4	65.5	68.0	53.5	41.5
	15	36.5	34.0	33.0	40.5	64.6	69.4	58.0	48.5
	16	43.0	41.0	40.0	47.4	69.2	72.5	62.7	62.0
	17	60.0	58.5	59.0	59.0	67.5	74.3	66.4	60.0
	18	57.0	52.0	49.0	58.5	64.3	66.6	57.5	54.5
	19	53.0	50.0	48.0	51.5	58.5	56.0	50.5	46.5
	20	44.8	45.0	45.5	46.0	46.5	45.0	44.2	44.0
	21	43.0	42.5	42.5	43.5	47.7	48.0	46.2	45.0
	22	43.7	42.0	40.2	46.2	50.0	48.6	46.5	44.0
	23	43.2	43.0	42.0	44.3	47.0	46.0	43.0	40.6
	24	37.0	36.8	37.0	41.5	52.0	51.5	46.9	42.0
	25	39.0	38.0	37.5	41.0	51.0	54.0	45.5	39.5
	26	38.5	38.8	38.5	44.0	49.0	49.0	44.0	42.5
	27	33.0	35.0	36.5	42.0	50.5	50.0	43.5	41.0
	28	39.0	33.5	31.5	41.0	46.0	49.0	41.0	37.5
	29	39.0	36.5	36.0	35.7	35.5	35.0	35.0	35.5
	30	35.0	32.0	32.0	34.5	43.5	41.0	41.5	42.0
Hourly means.		41.60	39.98	38.66	43.47	52.52	53.96	47.31	43.68

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
December	1	42.8	41.0	39.5	. .	48.0	48.5	33.0	33.5
	2	32.5	33.0	33.5	40.0	53.0	54.8	47.5	48.0
	3	52.8	50.8	50.5	58.5	58.5	60.5	58.8	57.5
	4	58.0	53.5	53.5	58.5	65.5	71.5	65.0	62.5
	5	63.0	60.5	51.5	50.5	53.0	50.0	47.0	43.5
	6	39.0	38.0	31.5	35.0	39.0	39.0	38.0	37.8
	7	38.0	39.0	39.5	41.0	49.0	53.0	44.5	43.0
	8	36.0	32.5	30.0	31.0	39.5	40.0	34.5	29.3
	9	27.2	27.0	24.0	29.0	34.0	32.5	32.5	33.0
	10	33.0	31.5	30.0	32.0	44.5	49.0	39.5	35.2
	11	34.0	34.5	35.0	41.0	47.5	50.0	47.5	46.5
	12	43.5	43.0	42.5	44.5	47.0	50.0	50.5	49.0
	13	46.7	46.0	45.0	42.5	41.8	40.0	34.0	32.5
	14	30.5	30.5	30.0	30.5	33.0	33.0	25.5	20.5
	15	17.2	15.5	16.0	17.0	19.0	20.5	16.0	15.5
	16	14.5	12.0	10.0	13.5	27.5	26.5	23.5	24.0
	17	27.0	25.5	24.5	25.0	29.0	33.8	27.5	27.5
	18	28.0	28.0	28.0	31.0	35.0	34.5	33.0	32.8
	19	34.5	35.5	37.0	39.5	42.0	43.5	43.9	46.0
	20	50.5	50.5	44.3	45.0	44.3	40.4	35.5	36.5
	21	36.5	36.2	37.0	33.0	34.0	32.8	28.0	24.5
	22	21.8	21.0	19.5	22.0	34.0	33.8	29.0	23.8
	23	20.0	17.5	16.5	19.0	30.5	31.0	26.4	24.2
	24	24.0	24.5	28.0	31.0	32.0	33.0	33.0	33.8
	25	33.5	33.5	31.5	33.0	34.5	37.5	37.5	36.0
	26	37.0	38.0	36.0	37.0	38.7	45.2	54.0	53.5
	27	56.0	57.5	57.5	59.5	65.5	64.0	54.2	49.0
	28	45.0	44.0	43.8	42.7	44.5	48.5	44.5	42.5
	29	38.0	37.0	33.5	37.5	43.5	41.0	37.0	35.5
	30	35.3	35.0	32.0	31.8	32.5	34.0	33.5	28.5
	31	25.0	25.0	25.0	34.5	27.5	29.0	29.2	29.3
Hourly means.		36.15	35.39	34.07	36.20	40.89	41.99	38.18	36.60

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
January	1	21.5	17.5	19.5	20.5	24.7	25.5	21.6	19.0
	2	. .	. .	. .	. .	25.0	26.0	26.0	24.3
	3	23.2	21.5	20.2	22.4	28.7	28.5	26.6	26.0
	4	25.0	. .	. .	25.2	28.5	30.0	. .	. .
	5	. .	. .	. .	. .	. .	32.5	28.5	29.4
	6	28.5	29.9	34.5	34.0	37.5	38.0	40.0	39.2
	7	37.0	37.0	37.2	37.5	33.5	28.0	25.2	21.0
	8	18.0	16.0	. .	15.5	24.6	24.6	22.5	21.2
	9	21.5	22.0	23.0	25.3	32.5	34.3	33.5	33.0
	10	33.0	34.0	35.5	41.4	40.0	37.4	46.0	49.0
	11	40.5	33.0	30.0	29.0	28.5	29.0	28.0	26.0
	12	25.0	26.0	27.0	28.5	33.5	36.0	32.5	29.5
	13	28.0	25.0	25.5	33.0	41.0	40.3	35.5	34.5
	14	34.0	33.7	34.0	35.0	35.0	31.0	29.7	29.0
	15	28.9	29.0	26.5	28.3	34.0	33.5	32.4	29.5
	16	29.0	30.0	27.5	29.5	30.5	33.5	28.5	. .
	17	. .	. .	. .	. .	. .	. .	. .	27.0
	18	23.6	19.8	18.3	19.6	31.5	22.5	22.8	19.7
	19	17.2	13.0	14.0	17.8	22.5	24.0	23.5	23.0
	20	20.0	. .	. .	19.4	30.5	30.6	27.0	23.7
	21	23.0	22.8	23.0	24.3	25.5	27.8	31.0	30.5
	22	30.0	30.0	28.4	. .	32.0	32.5	31.5	31.8
	23	32.8	32.4	32.3	32.7	33.2	34.0	34.5	33.5
	24	29.0	28.5	25.5	26.8	25.0	25.6	23.0	26.0
	25	19.0	17.2	15.2	18.0	20.8	22.0	19.4	17.7
	26	16.0	15.8	15.5	18.8	21.4	21.0	18.0	16.5
	27	14.8	11.5	13.2	14.0	18.6	17.0	15.5	13.2
	28	12.8	12.2	9.2	10.2	16.0	18.8	. .	. .
	29	22.8	25.6	23.0	27.0	30.2	31.0	30.0	29.0
	30	28.2	23.8	22.0	23.6	29.4	32.3	30.2	26.2
	31	22.8	21.7	18.2	22.8	32.5	37.0	34.6	35.0
Hourly means.		24.47	21.88	23.93	23.85	29.19	29.47	28.48	23.69

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
February	1	32.0	31.0	29.2	32.0	36.5	36.5	34.5	31.5
	2	30.0	29.0	28.0	30.5	33.2	33.0	28.8	26.8
	3	. .	. .	. .	25.0	29.0	30.0	30.0	30.8
	4	31.8	32.0	32.0	32.5	39.3	40.5	37.5	35.8
	5	35.0	33.5	34.5	29.5	28.0	29.0	28.0	26.0
	6	23.2	22.0	21.0	. .	. .	. .	26.8	24.5
	7	23.0	23.5	25.0	25.0	25.0	25.5	31.4	27.8
	8	26.8	25.5	24.8	27.3	31.8	32.5	26.8	25.5
	9	22.8	23.0	25.0	26.0	27.5	28.0	23.0	20.4
	10	17.8	15.0	12.4	19.5	26.5	33.5	32.3	30.5
	11	30.0	30.2	28.0	28.8	29.5	32.0	29.2	26.7
	12	25.5	25.0	26.0	26.0	23.5	22.5	19.5	16.6
	13	13.0	8.2	. .	8.5	14.0	18.0	. .	. .
	14	. .	. .	. .	. .	28.0	33.0	27.0	24.5
	15	24.0	25.6	28.0	29.5	31.5	33.0	32.5	33.0
	16	33.0	32.5	32.0	32.8	34.6	. .	34.0	33.4
	17	33.4	. .	. .	27.0	32.6	35.4	33.2	32.5
	18	32.5	32.0	33.0	34.2	35.5	36.5	33.6	34.0
	19	34.0	32.8	32.5	32.6	34.6	36.2	33.5	29.0
	20	26.5	25.5	24.5	29.7	33.7	36.2	32.2	28.2
	21	28.5	26.0	21.2	29.0	36.0	38.4	31.5	29.7
	22	27.0	24.0	25.8	30.0	37.2	39.5	39.0	38.5
	23	38.4	38.5	38.5	42.0	44.6	45.6	43.2	42.0
	24	38.6	36.0	31.5	33.6	39.0	40.5	34.0	30.5
	25	29.0	29.2	29.5	31.0	33.2	. .	34.2	35.2
	26	35.4	35.0	35.5	42.0	54.0	55.0	51.0	45.5
	27	39.5	41.0	40.0	38.4	43.0	44.6	41.0	38.0
	28	34.5	35.0	35.5	36.0	42.0	41.5	39.0	35.0
Hourly means.		29.43	28.44	28.89	29.94	33.46	35.06	32.84	30.81

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
March	1	31.5	31.6	31.0	33.4	36.5	37.0	34.5	34.8
	2	35.0	33.0	32.5	34.0	36.3	38.3	38.6	38.4
	3	38.2	38.0	38.0	38.5	40.8	41.6	42.5	42.4
	4	41.0	41.5	42.0	46.0	43.0	50.0	40.0	35.5
	5	33.2	32.0	29.0	32.0	37.2	37.5	33.5	29.2
	6	28.0	27.5	27.0	30.2	38.2	41.0	37.4	32.4
	7	31.0	31.0	30.0	33.8	43.4	45.0	44.0	41.5
	8	40.0	38.0	38.2	44.5	52.4	55.7	53.0	53.0
	9	50.5	49.6	51.0	54.2	57.5	57 5	55.4	53.6
	10	53.5	47.5	40.0	33.0	29.2	33.5	31.0	28.2
	11	25.0	22.5	22.5	29.0	31.5	35.5	34.5	32.5
	12	30.5	30.0	30.6	36.8	43.0	47.6	43.0	40.2
	13	44.0	40.0	40.0	45.0	53.0	54.0	51.5	47.0
	14	45.0	45.0	45.0	52.4	59.5	58.5	53.5	53.0
	15	53.4	54.0	54.1	55.0	57.2	58.5	60.0	60.2
	16	58.0	59.0	60.0	60.4	63.0	62.5	60.5	59.5
	17	39.0	37.0	34.0	39.5	47.5	49.0	57.1	53.0
	18	46.0	40.5	40.0	50.5	48.0	48.0	43.0	38.0
	19	36.0	36.0	33.7	42.5	45.5	50.5	49.2	44.7
	20	43.6	41.8	40.5	45.5	53.7	58.0	58.4	54.0
	21	51.0	51.0	51.0	57.0	60.5	62.0	59.5	59.5
	22	59.8	58.0	44.5	44.5	42.5	43.0	42.0	40.0
	33	39.0	40.0	39.5	42.5	. .	48.6	42.0	38.5
	24	39.5	38.0	33.5	34.7	35.9	36.8	38.0	38.0
	25	38.0	37.0	37.0	38.5	40.0	39.2	39.2	36.5
	26	35.0	31.0	29.0	32.0	34.5	38.0	36.0	32.8
	27	31.0	30.2	30.0	37.0	44.0	47.5	45.5	41.0
	28	39.6	40.0	40.0	44.0	50.5	52.0	49.0	46.5
	29	44.5	42.0	41.5	48.0	56.0	60.0	57.0	55.2
	30	54.6	53.0	55.5	57.5	60.5	60.7	59.5	56.0
	31	49.5	46.9	47.2	50.0	51.0	52.5	50.0	48.0
Hourly means.		41.42	40.08	38.95	42.64	46.29	48.37	47.36	43.97

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
April	1	45.2	42.0	42.0	47.0	47.5	46.0	42.5	39.0
	2	38.0	37.2	37.0	42.5	46.8	52.4	49.5	44.5
	3	42.5	41.5	42.0	48.0	53.0	49.0	47.5	47.0
	4	45.0	45.2	44.5	44.0	. .	54.0	54.0	54.0
	5	50.0	48.5	48.5	50.0	61.0	62.5	59.6	57.0
	6	57.0	57.0	56.5	57.5	61.0	62.9	60.5	59.5
	7	60.0	59.0	59.5	60.4	56.0	53.2	51.5	49.0
	8	42.5	39.5	38.0	41.5	45.0	46.5	46.5	43.8
	9	41.0	39.0	37.0	40.4	46.5	47.0	46.5	46.0
	10	44.2	41.4	42.7	44.6	47.0	48.0	49.5	47.5
	11	47.0	46.8	47.0	49.5	51.0	52.3	52.6	52.6
	12	53.2	55.7	58.5	60.5	63.4	65.5	62.5	62.0
	13	54.8	52.0	50.5	48.0	51.5	52.4	46.6	44.3
	14	40.5	40.2	39.5	47.4	53.0	56.6	54.8	49.5
	15	47.0	46.0	47.0	52.5	54.0	53.2	54.0	55.5
	16	55.0	50.5	50.0	54.5	54.5	51.3	48.0	42.0
	17	38.0	35.0	33.6	41.5	46.0	49.8	46.8	43.3
	18	44.5	47.0	49.5	56.5	62.2	64.4	63.0	58.0
	19	54.0	48.5	45.5	53.2	57.5	58.0	56.6	50.0
	20	48.7	47.0	48.0	53.0	53.5	52.8	52.0	52.3
	21	51.7	51.3	50.6	50.6	54.0	62.5	60.0	58.8
	22	57.5	58.0	62.5	59.0	60.0	58.2	51.0	54.0
	23	44.0	. .	. .	39.5	40.0	40.5	39.5	36.2
	24	34.0	34.0	35.0	46.6	50.6	54.8	54.5	48.0
	25	46.2	42.5	43.0	54.0	59.5	61.0	57.8	52.3
	26	50.0	49.0	47.0	59.0	60.5	61.0	54.5	54.0
	27	53.0	51.8	52.0	58.5	65.0	67.0	61.2	57.0
	28	55.0	54.0	55.0	61.2	66.5	64.5	62.5	60.0
	29	58.2	58.0	58.0	61.1	65.0	65.0	55.5	53.0
	30	50.0	48.0	46.0	47.5	51.2	52.0	52.5	54.0
Hourly means.		48.23	47.09	47.10	50.98	54.58	55.48	53.12	50.82

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
May	1	49.0	49.3	49.5	49.5	52.1	50.0	47.5	43.0
	2	40.0	40.0	36.5	45.5	51.0	51.5	49.5	47.0
	3	44.0	42.0	43.0	49.4	51.9	49.0	51.0	46.0
	4	44.0	41.0	40.8	51.0	56.2	56.5	56.0	59.0
	5	54.5	53.8	55.5	58.0	63.0	68.5	66.5	62.4
	6	60.0	60.0	62.5	66.0	72.0	73.5	71.5	65.0
	7	59.0	52.0	52.2	52.0	56.0	61.5	62.0	58.5
	8	57.0	57.2	57.8	62.5	72.0	71.5	67.8	69.0
	9	66.0	63.5	64.5	64.2	57.4	57.0	55.0	54.2
	10	54.0	53.0	53.5	55.0	57.8	56.6	56.0	56.0
	11	58.5	59.0	60.0	68.0	72.0	72.5	61.5	57.0
	12	48.5	46.5	43.0	45.6	52.0	53.8	53.5	48.8
	13	47.0	45.5	44.5	54.0	59.8	60.0	59.5	55.6
	14	51.5	50.8	50.0	59.6	62.0	63.0	60.2	58.0
	15	53.0	51.4	50.5	61.0	64.0	63.0	63.0	57.0
	16	54.0	53.0	51.0	60.0	66.5	69.5	67.0	63.0
	17	58.0	57.4	57.4	67.0	73.0	74.0	71.6	64.5
	18	62.0	58.5	62.0	67.2	73.6	. .	66.5	57.2
	19	56.8	56.0	56.0	58.5	63.0	67.8	66.8	66.2
	20	65.8	66.0	66.8	69.2	70.4	69.0	68.5	67.0
	21	67.0	64.0	67.0	68.5	70.4	73.2	70.0	65.0
	22	67.5	65.8	65.7	70.0	71.3	72.6	73.4	67.0
	23	62.0	60.0	57.0	61.0	61.0	62.0	59.3	50.6
	24	50.0	49.5	46.0	53.2	55.5	60.5	61.5	55.4
	25	56.0	55.0	58.0	61.0	66.5	69.0	65.8	64.0
	26	60.5	60.0	60.5	57.5	56.6	. .	57.4	56.0
	27	55.7	53.5	52.0	55.5	56.0	55.4	55.0	54.5
	28	53.5	52.0	52.0	56.2	59.0	62.0	61.0	58.5
	29	57.0	55.4	53.5	60.0	62.4	62.0	63.0	58.0
	30	58.6	56.0	56.0	62.3	65.4	65.2	67.0	63.0
	31	60.0	57.5	57.5	65.0	68.7	71.5	68.6	64.3
Hourly means.		55.50	54.34	54.26	59.14	62.53	63.50	62.03	58.41

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
June	1	62.0	60.0	59.2	68.7	71.5	72.4	73.0	67.5
	2	66.0	63.0	62.2	68.7	72.3	72.0	73.0	69.5
	3	65.8	65.8	64.5	71.0	75.6	76.5	73.0	70.5
	4	69.0	66.5	67.2	73.0	80.0	80.5	77.0	73.0
	5	75.0	73.0	69.5	73.6	74.5	75.0	75.4	73.6
	6	68.0	64.0	62.0	63.4	65.5	66.2	65.5	65.2
	7	64.5	64.5	65.0	67.5	72.0	75.0	71.0	70.5
	8	69.5	68.5	69.0	73.0	78.5	79.5	76.0	72.0
	9	69.5	69.5	69.5	75.8	77.5	79.0	77.0	73.2
	10	71.0	71.0	71.0	73.4	77.0	67.5	70.0	67.8
	11	67.5	66.5	64.3	64.3	68.5	72.0	70.5	66.0
	12	64.5	62.8	65.0	69.5	74.5	76.5	76.0	72.2
	13	72.4	72.5	72.5	73.3	76.3	77.6	71.0	71.0
	14	72.0	68.5	70.0	76.5	77.0	73.6	70.5	69.0
	15	67.0	66.5	65.0	64.5	67.0	69.2	67.0	68.0
	16	65.5	65.2	66.2	69.0	72.5	76.0	74.8	72.8
	17	70.0	71.8	72.3	73.5	77.0	80.5	76.4	73.2
	18	71.5	71.0	71.0	74.0	79.7	78.3	78.0	71.5
	19	70.5	70.0	70.5	75.4	82.5	81.0	72.0	71.5
	20	70.2	70.2	71.5	75.3	78.0	74.5	68.3	67.0
	21	67.5	67.2	66.5	70.2	74.0	71.6	73.5	69.0
	22	67.0	65.0	65.8	73.5	75.6	71.5	75.4	71.0
	23	68.8	65.5	66.5	69.8	75.0	74.5	75.8	71.8
	24	69.0	68.0	67.5	75.5	78.5	79.0	77.0	71.5
	25	70.8	67.0	68.0	74.0	75.5	72.6	71.3	68.5
	26	68.8	70.0	72.0	73.7	73.5	75.0	67.5	66.5
	27	65.8	64.5	64.3	64.6	67.5	. .	72.5	68.0
	28	63.6	62.4	61.5	69.5	71.0	74.5	73.2	69.2
	29	68.0	68.5	70.0	75.6	79.5	80.0	79.0	74.6
	30	73.6	72.5	72.5	80.2	84.0	83.0	74.0	73.0
Hourly means.		68.48	67.38	67.40	71.67	75.05	75.33	73.15	70.27

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
July	1	72.5	71.5	71.5	74.0	76.0	77.5	76.4	72.5
	2	70.5	69.5	70.8	71.0	67.0	70.0	66.5	64.0
	3	51.2	61.0	61.0	65.2	68.5	70.6	75.0	67.5
	4	65.0	64.0	63.5	70.5	73.2	76.0	76.0	71.8
	5	70.5	71.5	71.5	75.4	75.4	75.8	76.5	74.0
	6	73.2	70.0	61.6	65.0	71.0	73.5	74.2	70.0
	7	69.5	69.5	72.5	78.2	78.4	78.0	78.5	79.0
	8	73.0	72.6	71.5	76.8	80.0	74.2	75.8	73.8
	9	69.5	67.2	69.0	72.0	75.0	73.5	72.5	67.5
	10	65.0	63.4	60.0	62.5	62.7	63.0	66.3	66.0
	11	67.5	63.8	64.3	66.7	73.5	78.2	78.0	70.5
	12	70.0	68.8	68.0	70.0	71.0	72.3	72.8	70.4
	13	69.5	68.5	. .	71.0	72.4	69.0	63.4	58.5
	14	55.5	. .	52.6	60.6	62.0	65.0	64.6	60.5
	15	58.0	56.0	58.3	64.5	65.0	67.0	66.8	66.5
	16	66.5	66.5	69.0	72.5	75.5	76.2	73.2	71.5
	17	72.0	71.0	68.5	66.0	64.6	65.5	65.0	64.5
	18	59.0	57.0	56.8	63.0	64.8	66.9	67.5	62.8
	19	62.0	60.7	62.0	71.3	74.6	75.5	76.0	75.0
	20	73.0	70.0	71.2	70.5	73.0	74.0	73.8	71.5
	21	69.8	69.0	69.5	76.0	79.0	79.5	80.4	78.0
	22	76.7	75.0	73.6	73.0	75.7	76.0	74.2	72.5
	23	70.0	68.0	69.5	72.0	72.6	73.0	73.2	71.5
	24	69.5	69.5	70.5	75.5	80.0	79.0	76.0	74.5
	25	73.5	73.0	72.5	79.4	81.0	82.0	79.0	74.0
	26	71.5	74.0	67.3	69.5	71.3	74.0	72.5	70.0
	27	67.0	66.0	69.0	71.0	74.5	78.0	79.0	75.0
	28	73.5	73.0	73.5	78.0	80.5	84.0	82.6	78.5
	29	76.0	75.5	74.0	76.2	77.5	79.8	74.5	69.5
	30	69.0	69.0	67.0	71.5	71.5	72.5	71.8	69.0
	31	65.5	64.0	66.0	72.5	70.5	71.6	71.0	68.5
Hourly means.		68.22	67.95	67.20	71.01	72.83	73.91	73.35	70.28

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
August	1	69.0	68.5	68.0	72.5	75.5	78.5	75.8	75.0
	2	72.0	71.0	73.2	76.6	80.6	77.2	79.0	76.0
	3	75.5	75.3	75.0	76.6	81.0	80.0	80.0	75.6
	4	74.0	73.0	72.0	75.6	79.2	. .	81.0	74.0
	5	74.0	73.8	71.5	75.0	76.5	79.0	78.5	77.0
	6	74.0	73.0	72.6	76.3	80.2	79.0	75.0	75.0
	7	72.0	71.2	71.0	73.2	72.5	. .	68.8	63.5
	8	62.0	61.0	60.0	67.0	68.0	69.3	69.0	65.5
	9	73.8	73.0	73.0	68.0	70.0	71.0	70.4	67.5
	10	65.8	63.8	64.5	72.0	73.0	74.0	74.0	71.5
	11	69.0	68.5	67.0	69.2	70.0	69.0	. .	64.8
	12	64.5	63.0	61.4	64.2	69.2	71.5	69.0	64.3
	13	60.5	59.0	57.8	62.5	68.0	74.0	68.0	63.2
	14	61.0	60.0	62.0	66.4	73.2	72.5	72.5	69.2
	15	67.5	67.5	68.0	73.0	74.0	75.0	73.0	70.2
	16	67.2	65.5	66.5	71.8	75.0	. .	72.0	69.5
	17	66.5	67.0	65.0	68.7	72.0	. .	70.0	68.0
	18	67.5	67.0	66.5	68.4	70.5	. .	69.5	68.5
	19	68.0	64.0	63.0	67.4	71.0	73.0	73.2	69.0
	20	65.8	64.0	65.0	72.0	75.0	76.2	74.0	70.5
	21	70.0	69.0	68.0	73.5	80.7	77.4	78.0	72.6
	22	72.2	71.5	70.5	72.5	74.5	76.0	75.0	72.0
	23	57.8	53.0	51.0	57.2	69.5	. .	58.2	57.0
	24	55.6	53.0	51.2	56.2	58.5	59.0	60.0	56.5
	25	54.0	51.5	51.5	58.0	65.5	67.0	65.0	69.5
	26	58.0	56.5	54.0	63.7	72.0	71.3	71.0	66.5
	27	66.0	63.5	59.5	66.0	70.0	73.0	72.5	71.0
	28	67.0	59.5	58.0	61.5	66.0	. .	66.0	63.5
	29	66.5	65.5	66.0	68.0	69.0	. .	70.0	67.3
	30	66.0	64.5	67.8	69.5	73.5	76.0	73.0	71.2
	31	71.0	69.5	69.4	73.2	76.4	76.0	74.2	71.4
Hourly means.		66.89	65.36	64.84	68.89	72.58	73.69	71.85	68.91

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
September	1	69.0	67.8	67.5	74.2	78.5	78.0	. .	72.0
	2	70.5	70.5	69.0	73.5	76.0	77.0	77.6	75.0
	3	73.0	72.0	73.0	76.0	78.5	80.0	78.0	79.0
	4	74.0	73.5	73.0	76.2	79.0	80.5	76.5	75.0
	5	74.2	72.5	73.0	74.5	79.0	81.0	76.0	75.8
	6	75.0	73.0	72.0	78.0	79.0	82.0	78.0	75.5
	7	74.0	73.5	73.0	76.0	79.0	78.4	76.0	74.5
	8	74.0	73.5	73.0	78.5	80.5	80.7	79.5	77.0
	9	74.6	73.0	70.0	70.0	70.5	72.0	72.2	71.0
	10	70.4	70.5	68.2	71.0	72.0	77.0	74.0	73.0
	11	73.0	72.2	72.8	74.2	77.0	77.5	76.0	74.0
	12	73.0	72.5	72.6	76.8	78.0	79.5	75.0	74.3
	13	73.5	73.0	70.8	76.0	77.0	78.3	77.0	75.5
	14	75.0	74.5	73.0	76.2	81.5	81.5	79.5	73.5
	15	72.0	70.5	70.5	73.6	78.6	79.5	79.0	73.0
	16	67.0	67.0	61.0	71.0	70.0	76.7	71.5	64.5
	17	61.0	60.2	58.0	69.2	71.2	73.5	69.0	66.0
	18	65.0	64.0	64.0	70.0	69.5	70.0	67.0	57.5
	19	54.0	54.0	53.0	58.0	65.2	64.0	61.5	. .
	20	53.0	51.0	48.3	59.5	64.5	65.0	63.5	61.0
	21	60.5	57.0	57.5	64.3	71.0	71.0	71.0	67.0
	22	65.5	63.0	62.0	69.5	76.0	81.5	76.0	73.0
	23	65.5	62.2	63.0	68.0	74.6	76.5	71.5	65.2
	24	62.5	61.5	59.5	66.5	74.5	79.0	71.0	68.0
	25	68.0	65.8	65.0	66.5	72.5	73.6	71.5	70.0
	26	66.5	62.0	59.0	64.5	73.5	75.0	64.6	57.3
	27	54.2	52.4	50.5	61.3	72.5	73.5	65.8	58.0
	28	55.4	53.5	48.2	57.5	69.5	74.0	64.5	57.8
	29	53.2	50.5	49.0	58.0	73.5	78.5	69.2	61.5
	30	56.8	52.8	54.0	60.4	75.0	77.0	68.2	62.5
Hourly means.		66.78	65.31	64.11	69.63	74.57	76.39	72.42	69.22

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
October	1	61.0	59.5	58.5	62.8	. .	73.4	65.8	57.5
	2	55.5	53.0	52.0	62.0	71.5	75.0	63.0	56.0
	3	52.0	46.0	45.6	54.0	58.5	56.4	57.0	51.6
	4	51.5	49.5	45.2	49.2	51.0	54.0	48.5	46.2
	5	47.0	43.5	42.0	48.0	54.4	53.6	51.0	48.0
	6	44.5	43.0	41.6	49.0	52.2	53.0	49.3	45.4
	7	41.6	39.5	38.2	49.0	59.5	63.3	56.2	52.5
	8	52.3	52.0	48.2	59.0	70.5	73.2	65.8	62.1
	9	58.5	58.0	55.0	63.0	70.0	73.4	67.5	59.0
	10	57.2	55.0	55.0	64.2	73.2	75.0	69.0	61.5
	11	58.0	56.0	54.2	62.5	70.3	69.8	64.2	61.2
	12	58.0	55.4	55.2	62.0	65.5	70.3	58.2	49.2
	13	47.0	42.5	39.0	43.8	49.2	50.5	47.0	47.8
	14	48.0	47.2	47.5	49.8	53.5	51.5	49.2	49.4
	15	50.5	50.0	49.8	50.4	51.5	52.5	51.5	47.5
	16	47.0	46.0	43.5	45.5	50.8	52.4	47.0	43.0
	17	42.0	38.9	38.0	45.3	54.4	56.5	53.7	52.0
	18	52.0	51.5	51.5	53.5	57.4	61.5	60.5	60.0
	19	57.0	47.8	47.0	48.0	47.8	49.5	46.5	43.0
	20	46.0	46.2	45.0	48.5	58.5	50.0	46.8	45.0
	21	44.4	43.0	43.0	45.5	48.0	48.6	45.8	41.5
	22	38.5	36.5	35.0	43.0	51.0	51.2	47.9	44.5
	23	45.0	45.7	45.3	47.5	56.6	60.2	54.0	49.5
	24	48.0	47.2	38.2	40.5	47.6	46.5	40.3	37.6
	25	35.6	34.4	34.0	41.6	50.2	51.0	44.5	41.5
	26	37.0	35.0	36.0	43.5	52.8	. .	47.5	45.8
	27	46.0	46.0	45.0	52.0	52.0	57.0	56.4	55.5
	28	56.2	59.2	59.2	62.5	59.5	56.0	47.2	41.2
	29	40.5	40.0	37.0	38.8	43.0	43.0	40.0	37.2
	30	35.3	32.5	32.0	40.5	46.0	48.0	42.5	39.8
	31	43.5	44.6	44.8	47.5	47.8	52.3	50.0	47.0
Hourly means.		48.28	46.60	43.27	50.72	55.81	57.62	52.70	49.00

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
November	1	46.5	44.2	40.8	45.8	53.0	54.0	48.5	46.3
	2	46.5	47.5	48.5	51.2	55.0	55.0	54.5	54.0
	3	54.0	49.0	48.0	46.5	51.5	50.4	49.2	48.0
	4	48.0	48.0	48.5	48.2	49.0	49.2	48.0	46.5
	5	41.8	41.0	37.0	38.0	37.0	37.0	33.8	32.4
	6	31.6	29.0	29.5	35.6	43.5	47.5	42.4	41.5
	7	41.2	40.0	37.0	40.4	44.5	45.0	38.5	33.5
	8	. .	28.5	28.0	33.8	42.8	44.5	39.5	36.5
	9	37.0	37.5	35.5	38.7	51.5	54.0	47.5	42.4
	10	39.0	37.0	33.5	39.0	43.0	45.5	38.5	34.0
	11	30.5	26.6	25.5	30.0	37.5	39.5	31.0	. .
	12	. .	. .	. .	29.5	40.8	43.0	38.0	35.0
	13	32.0	31.0	31.4	35.5	50.5	52.5	47.0	42.5
	14	37.0	34.0	32.0	38.5	53.2	54.2	46.5	39.5
	15	36.0	32.5	32.5	38.8	53.7	56.8	51.5	46.0
	16	41.7	40.0	39.5	45.0	61.3	64.5	60.0	60.8
	17	58.5	58.0	58.7	58.8	64.2	66.0	61.2	57.8
	18	55.8	51.0	48.0	52.8	56.4	58.2	52.5	50.0
	19	51.5	48.5	46.5	48.0	52.2	50.2	46.5	44.2
	20	42.5	43.5	43.5	44.0	44.6	44.1	43.0	43.5
	21	42.6	42.0	41.8	43.0	46.5	46.5	45.0	41.0
	22	40.0	40.8	39.0	41.8	44.5	45.5	44.0	40.5
	23	40.4	40.0	40.0	41.5	44.0	43.5	41.4	39.6
	24	36.0	35.8	35.0	38.5	47.0	48.5	44.0	40.5
	25	37.5	37.0	36.0	38.5	46.0	48.5	43.0	39.0
	26	38.0	38.0	38.0	41.5	44.0	45.0	41.8	41.0
	27	32.5	34.5	35.5	39.5	45.0	46.5	40.5	38.0
	28	36.5	32.0	30.0	37.5	42.0	44.0	38.5	35.5
	29	37.8	35.0	35.4	35.0	35.3	34.8	34.8	34.8
	30	33.0	31.5	31.0	33.0	40.5	39.5	38.5	39.0
Hourly means.		40.91	39.08	38.12	40.93	47.33	48.45	44.30	42.18

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
December	1	40.5	40.0	38.5	. .	47.5	47.5	32.0	33.0
	2	32.8	33.5	33.5	37.5	48.5	52.8	45.0	47.0
	3	51.0	49.5	49.5	51.5	56.5	59.0	56.0	57.0
	4	57.5	53.0	53.0	57.5	61.5	64.5	61.5	60.8
	5	59.5	57.5	50.5	49.0	50.0	48.5	45.5	42.5
	6	38.0	37.5	30.8	33.5	36.5	36.8	37.0	36.5
	7	37.5	38.5	39.8	40.8	48.0	50.8	43.5	42.0
	8	35.5	31.5	29.2	31.0	39.0	37.5	33.5	29.0
	9	26.8	26.5	23.8	28.5	32.5	32.5	32.3	33.0
	10	32.9	. .	. .	31.5	39.5	43.0	37.0	34.0
	11	33.0	33.5	34.5	39.5	45.0	45.5	44.5	44.5
	12	43.5	43.0	42.5	44.5	47.0	49.7	50.3	48.7
	13	46.5	45.5	41.5	41.0	39.8	33.5	31.5	31.8
	14	30.6	29.5	29.0	28.5	31.5	32.5	. .	. .
	15	. .	. .	. .	. .	. .	. .	. .	. .
	16	. .	. .	. .	. .	. .	. .	. .	. .
	17	. .	. .	. .	. .	28.7	33.5	27.2	27.0
	18	27.8	27.5	27.7	30.4	33.2	32.5	32.0	32.5
	19	34.0	34.8	36.8	39.0	41.5	43.5	43.7	45.8
	20	47.8	45.7	42.0	41.0	41.5	38.0	35.0	36.8
	21	36.0	36.0	36.5	28.5	29.0	27.5	26.5	24.2
	22	. .	. .	. .	. .	33.7	34.0	. .	. .
	23	20.0	17.5	16.5	19.0	30.5	31.0	26.4	24.2
	24	. .	. .	. .	. .	. .	. .	. .	. .
	25	. .	. .	. .	32.7	34.5	37.5	37.3	35.8
	26	37.0	38.0	36.0	36.8	38.5	45.0	53.5	53.0
	27	55.5	57.0	57.0	59.6	64.0	60.5	48.5	46.0
	28	42.5	42.0	42.0	40.5	43.0	45.3	40.5	38.5
	29	35.0	34.5	32.0	34.5	37.5	35.5	33.5	33.5
	30	34.0	34.5	. .	31.6	32.3	33.7	32.6	28.0
	31	24.5	. .	. .	. .	. .	. .	29.0	29.2
Hourly means.		38.39	38.54	37.39	37.83	41.14	45.61	39.05	38.24

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
January	1	21.0	16.0	18.0	32.2	63.5	54.0	18.2	14.0
	2	16.5	16.0	15.0	27.0	60.5	37.0	23.8	23.5
	3	22.0	20.0	19.0	35.0	64.8	38.0	26.0	24.5
	4	23.0	20.0	16.5	52.0	51.0	. .	21.0	20.0
	5	13.0	12.0	11.0	23.0	78.0	59.0	24.0	28.5
	6	27.0	26.9	32.5	41.0	45.0	40.0	39.0	38.0
	7	35.0	36.0	37.0	43.0	52.0	34.5	25.0	20.0
	8	16.0	14.0	10.0	44.0	68.0	59.0	21.0	18.0
	9	19.0	21.0	23.0	29.0	71.4	49.0	34.5	33.5
	10	33.0	34.0	35.0	44.5	42.0	38.7	45.8	49.0
	11	41.5	32.5	27.0	51.0	74.5	63.0	25.0	22.0
	12	18.5	20.0	24.0	36.4	83.0	62.5	29.0	26.0
	13	23.0	21.0	20.5	61.0	79.5	71.5	35.0	34.5
	14	34.0	35.0	35.0	39.0	70.0	46.0	32.7	30.5
	15	28.0	29.0	24.0	55.2	79.0	66.0	30.4	29.5
	16	28.5	30.0	26.0	56.0	76.5	68.0	20.0	20.3
	17	17.0	16.0	20.0	31.5	50.2	49.0	30.0	24.0
	18	21.0	19.5	16.4	29.2	36.0	35.2	20.0	13.0
	19	9.2	9.5	10.5	30.8	45.5	31.6	23.5	23.0
	20	15.8	11.0	10.0	45.0	78.0	72.0	24.1	17.5
	21	19.0	21.5	23.0	27.5	30.0	30.0	. .	30.5
	22	. .	. .	. .	. .	. .	41.5	31.5	32.0
	23	32.0	32.0	32.0	34.0	39.8	42.0	34.3	32.5
	24	28.0	26.0	23.5	70.0	44.0	60.0	24.0	20.5
	25	16.8	15.0	10.5	49.5	72.0	63.5	16.0	11.0
	26	13.0	12.0	11.0	33.5	43.0	55.2	16.0	14.0
	27	11.5	9.0	9.0	35.5	71.0	37.0	15.0	11.7
	28	11.5	10.0	6.0	42.0	64.0	46.0	15.2	18.2
	29	22.0	23.0	20.5	56.0	45.0	38.5	29.0	28.0
	30	26.0	21.0	16.0	53.5	78.5	72.5	25.5	21.5
	31	19.0	18.0	15.0	33.0	60.0	57.0	34.5	33.5
Hourly means.		22.03	20.90	19.90	41.34	60.52	50.91	26.30	24.60

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
February	1	32.0	30.0	27.0	40.0	61.0	65.5	33.0	30.5
	2	29.0	25.0	23.0	57.0	84.7	76.3	26.0	21.0
	3	18.0	17.0	18.5	30.0	39.0	37.0	29.8	30.0
	4	31.5	30.5	30.0	37.0	87.0	82.2	37.5	31.0
	5	34.0	32.9	33.0	67.5	79.0	44.0	27.0	24.0
	6	20.0	19.0	18.0	46.5	75.7	70.1	24.5	19.5
	7	19.0	21.0	24.0	25.6	35.0	33.0	. .	. .
	8	. .	. .	. .	. .	87.0	64.0	29.0	26.0
	9	21.5	21.0	20.0	55.5	46.0	53.0	23.0	19.0
	10	15.0	12.0	9.5	33.0	43.5	63.8	33.0	31.0
	11	31.0	29.0	27.0	59.5	82.0	72.0	26.0	25.0
	12	24.0	26.0	26.0	34.0	66.0	60.0	18.0	15.0
	13	10.0	6.2	3.0	49.5	76.0	65.5	12.7	4.5
	14	4.0	3.0	2.0	52.0	85.7	75.0	26.2	23.0
	15	23.0	25.0	28.0	32.0	. .	33.5	33.0	33.0
	16	32.0	32.0	31.0	40.0	53.0	45.7	33.5	33.0
	17	32.0	27.5	23.7	40.0	63.0	44.0	32.0	32.0
	18	32.5	32.0	32.0	66.0	87.0	59.5	35.5	35.0
	19	35.0	32.0	32.0	58.0	67.0	81.0	33.0	25.5
	20	26.0	21.0	20.0	65.4	88.0	80.5	30.5	24.0
	21	23.0	21.0	18.0	65.5	88.0	82.5	30.0	23.0
	22	21.5	19.0	22.0	38.0	83.2	64.0	41.0	38.0
	23	38.0	38.0	39.0	46.0	52.0	50.5	43.4	41.7
	24	38.0	38.0	31.0	73.0	93.5	84.0	34.5	29.0
	25	27.0	28.0	29.0	35.5	46.5	. .	34.0	35.0
	26	35.5	35.0	35.5	61.4	107.5	83.5	52.5	48.0
	27	43.0	41.0	41.5	78.5	101.0	86.5	41.5	40.0
	28	38.0	37.0	37.0	48.0	102.0	60.7	39.4	32.2
Hourly means.		27.17	25.89	25.21	49.42	73.45	63.60	31.83	28.48

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
March	1	26.0	26.5	26.5	41.0	63.0	60.0	35.0	35.5
	2	35.5	34.2	33.0	36.5	38.2	42.3	38.5	38.0
	3	38.0	37.0	37.0	41.0	51.0	69.0	42.0	42.5
	4	40.5	41.0	42.0	46.8	49.0	96.5	44.0	38.0
	5	33.0	31.5	28.0	72.0	93.5	75.0	37.2	26.0
	6	23.0	21.5	20.0	67.0	95.0	90.5	39.5	30.0
	7	28.0	27.5	27.0	73.5	99.0	94.0	47.5	40.0
	8	37.0	36.0	35.0	68.5	93.0	79.0	52.5	52.5
	9	49.0	48.0	49.5	65.0	88.0	81 0	55.5	54.0
	10	52.5	48.0	41.0	40.5	45.0	70.0	30.0	25.0
	11	22.5	22.0	17.0	60.0	85.0	86.0	37.0	30.3
	12	30.0	29.0	30.0	83.0	99.8	78.7	50.5	42.0
	13	45.0	42.0	41.5	84.5	111.0	96.0	57.7	49.5
	14	46.0	45.0	43.0	85.0	110.0	82.0	63.0	55.0
	15	55.0	55.0	54.5	62.0	68.2	65.5	63.0	60.0
	16	59.0	60.0	60.0	97.5	80.5	74.0	65.0	65.0
	17	38.0	37.5	35.0	85.0	105.0	95.5	72.0	54.0
	18	51.0	47.0	47.0	94.6	105.0	90.5	50.0	35.0
	19	31.8	31.0	29.0	73.5	96.5	88.5	55.0	44.5
	20	44.0	38.5	39.0	66.5	84.0	87.0	63.5	54.0
	21	50.0	48.0	49.0	83.0	86.0	77.0	59.0	59.0
	22	59.6	58.0	46.0	86.0	73.0	73.8	52.0	46.5
	23	43.0	41.0	40.0	69.5	. .	96.0	49.5	39.0
	24	37.5	34.0	30.0	50.2	55.0	55.0	41.5	40.5
	25	40.0	38.5	36.0	57.0	75.0	54.0	40.0	35.5
	26	36.5	32.5	30.0	59.0	57.8	92.0	47.0	33.0
	27	30.0	29.0	26.7	84.5	101.5	99.0	51.0	38.0
	28	36.5	37.5	38.5	61.2	94.8	78.0	53.2	48.0
	29	43.0	42.5	42.0	78.0	109.0	89.0	60.0	55.7
	30	54.8	52.0	56.0	60.0	69.0	67.0	59.5	58.0
	31	47.0	45.0	44.0	59.0	70.0	59.5	64.0	47.5
Hourly means.		40.73	39.23	37.85	67.45	81.69	78.75	50.49	44.21

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
April	1	49.0	40.0	42.0	90.0	105.0	98.0	56.0	41.2
	2	37.0	34.0	35.0	91.0	106.0	109.0	60.5	46.0
	3	39.0	40.0	42.5	75.6	92.0	64.0	54.0	50.0
	4	46.5	44.0	45.0	55.0	96.0	81.0	57.0	53.0
	5	50.0	48.0	49.5	72.0	87.0	89.0	65.0	57.0
	6	57.0	56.5	56.0	64.0	78.0	104.5	65.7	59.0
	7	59.5	59.5	61.0	74.0	62.9	58.5	54.0	45.0
	8	44.0	38.5	35.5	91.0	107.0	96.0	51.0	39.0
	9	38.0	36.0	37.5	57.0	93.7	65.2	49.0	47.0
	10	43.0	41.5	42.0	52.0	57.5	54.5	51.0	47.0
	11	46.5	46.0	47.5	64.5	62.1	59.0	53.0	52.0
	12	53.0	55.2	60.0	72.5	75.0	80.0	62.5	62.0
	13	56.5	52.5	50.0	57.0	117.0	110.0	50.0	45.5
	14	41.0	40.0	39.0	98.5	119.0	118.0	61.8	52.0
	15	42.8	44.0	49.0	56.0	68.0	58.5	54.5	54.0
	16	50.0	49.0	46.0	71.0	113.0	90.0	66.4	42.5
	17	35.0	34.0	32.0	92.0	109.0	105.0	59.5	43.0
	18	44.0	46.0	51.8	81.0	86.0	113.0	75.0	55.0
	19	55.6	42.0	43.0	106.0	122.5	118.0	72.0	51.0
	20	46.0	45.0	52.0	67.0	59.0	57.0	53.0	52.0
	21	51.0	50.5	51.5	57.0	69.0	93.0	65.5	59.0
	22	56.5	59.5	64.0	93.0	114.0	112.0	63.0	56.0
	23	48.0	46.0	44.0	61.0	68.0	60.0	50.5	35.0
	24	29.5	30.8	34.5	99.0	111.0	110.5	68.0	45.0
	25	42.0	39.0	44.0	105.5	126.0	117.0	70.5	47.5
	26	46.0	45.0	46.0	103.0	120.0	80.0	54.0	53.0
	27	52.0	48.0	53.0	100.5	117.5	116.5	73.0	57.0
	28	55.0	53.0	58.0	99.5	115.0	110.0	77.5	61.0
	29	58.5	58.0	60.5	74.2	104.0	78.0	55.0	52.0
	30	46.0	45.0	48.0	98.5	109.0	98.5	57.8	55.0
Hourly means.		47.26	45.55	47.33	79.28	95.64	90.12	60.19	50.46

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
May	1	29.5	49.0	50.0	60.7	94.7	102.0	70.0	43.5
	2	38.0	36.0	34.0	84.5	111.0	92.0	71.0	44.0
	3	42.0	35.5	45.5	102.0	110.0	83.5	67.0	42.0
	4	40.0	36.5	39.5	103.0	114.0	97.5	66.0	59.0
	5	53.5	52.5	57.5	77.0	96.0	120.7	77.0	59.5
	6	59.0	58.2	62.5	99.0	126.0	119.0	88.0	70.0
	7	66.0	54.0	55.5	82.0	116.0	121.4	72.0	58.0
	8	54.0	55.5	58.0	77.0	128.0	113.0	69.0	67.0
	9	64.0	62.0	64.0	77.2	68.0	70.0	59.5	53.5
	10	53.0	52.0	55.0	62.0	72.0	66.0	59.0	55.0
	11	58.5	59.0	63.0	110.7	120.0	98.0	65.0	54.0
	12	49.5	46.0	44.0	97.2	111.8	112.0	78.0	42.5
	13	44.0	42.0	46.0	105.0	117.0	117.0	76.0	51.0
	14	44.0	42.0	48.5	108.0	121.0	99.0	73.0	59.0
	15	46.0	44.0	49.0	108.0	123.0	122.0	76.0	55.0
	16	47.0	46.0	47.0	108.0	124.5	123.0	79.5	59.0
	17	54.5	54.5	57.0	115.0	130.2	128.2	85.5	58.2
	18	56.0	54.0	56.0	119.0	127.0	. .	70.5	56.0
	19	56.5	56.0	57.0	65.0	85.0	96.0	79.0	65.0
	20	64.0	64.0	69.0	92.0	76.7	75.0	71.0	66.0
	21	66.0	66.5	63.0	81.0	93.0	96.0	69.0	67.0
	22	66.5	64.2	69.5	96.0	122.0	131.0	94.0	66.0
	23	64.0	60.0	57.0	106.0	122.0	123.0	73.2	53.0
	24	47.5	45.0	45.0	111.5	122.0	125.0	68.0	48.0
	25	48.0	53.5	60.0	77.0	132.0	118.0	75.0	68.0
	26	58.0	58.0	60.5	63.0	67.0	. .	58.0	56.0
	27	55.0	53.5	53.0	81.0	80.0	75.0	60.0	53.0
	28	51.5	49.0	52.0	112.0	110.0	119.0	71.6	59.0
	29	52.0	50.0	56.5	110.0	125.0	121.0	82.0	51.0
	30	56.5	54.0	55.0	115.5	127.0	123.0	81.5	58.0
	31	57.0	50.5	57.0	117.0	119.0	102.0	74.5	57.8
Hourly means.		53.58	51.71	54.40	94.27	109.38	106.49	72.86	56.58

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
June	1	54.0	51.0	61.0	106.5	132.5	119.5	83.0	60.0
	2	59.0	55.5	65.0	113.5	134.0	130.0	97.2	64.5
	3	60.0	58.0	68.0	119.0	131.5	128.5	94.0	65.5
	4	63.0	62.5	74.5	102.0	137.0	134.0	93.0	69.2
	5	69.0	69.0	70.0	127.0	141.6	136.0	100.0	71.0
	6	68.0	67.0	65.0	75.3	87.4	78.4	69.5	65.0
	7	64.0	64.0	66.0	87.0	116.0	98.0	97.0	. .
	8	. .	68.0	72.0	123.0	135.0	130.0	96.0	67.0
	9	65.5	65.0	70.0	107.0	137.0	137.5	92.0	69.0
	10	69.0	68.5	77.5	94.0	120.0	72.0	81.0	65.5
	11	63.5	63.0	70.0	83.0	110.5	130.0	102.3	60.0
	12	59.5	59.5	70.0	79.0	127.5	126.0	93.8	70.0
	13	70.0	69.4	74.5	94.0	105.5	102.0	76.0	68.0
	14	70.0	69.5	75.0	125.0	132.0	93.0	72.0	68.0
	15	66.0	65.0	69.0	73.0	91.0	99.0	71.0	69.0
	16	65.4	65.0	68.0	87.0	96.0	105.0	84.0	71.0
	17	70.0	70.0	74.0	84.0	130.0	131.0	89.0	72.5
	18	69.0	68.0	74.0	100.0	135.0	113.7	103.0	70.0
	19	69.5	68.0	74.0	121.0	134.5	133.0	74.0	72.0
	20	69.5	69.0	74.5	127.0	96.7	81.0	70.0	67.0
	21	67.0	66.0	72.0	105.5	105.4	115.5	85.7	67.0
	22	65.0	62.0	66.5	119.0	115.0	79.0	109.5	69.0
	23	66.0	63.0	72.0	116.0	132.0	132.0	113.0	70.0
	24	69.2	68.0	70.0	119.0	132.0	134.0	113.0	69.0
	25	68.0	64.5	72.0	99.0	131.0	99.5	87.5	73.0
	26	72.0	73.0	74.0	92.7	92.3	106.0	70.0	63.4
	27	65.0	63.0	64.5	115.0	126.0	. .	105.3	69.2
	28	62.0	59.0	62.5	118.5	132.0	118.0	107.0	67.0
	29	65.0	64.5	73.0	121.0	135.0	133.0	110.0	76.0
	30	72.0	70.0	75.0	126.0	139.0	137.0	80.0	75.0
Hourly means.		66.04	64.93	70.45	105.30	122.35	114.88	90.63	68.37

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
July	1	72.0	71.0	75.0	127.0	126.5	104.0	85.0	71.0
	2	68.0	67.0	74.5	119.0	125.5	125.0	104.0	68.0
	3	58.0	57.0	63.0	118.0	129.0	129.0	95.0	64.0
	4	62.0	61.0	64.0	122.0	135.0	133.0	84.5	70.5
	5	69.5	70.0	74.0	122.0	93.5	130.0	94.0	70.0
	6	69.0	67.0	70.0	80.0	124.0	131.0	109.0	68.0
	7	68.0	65.8	71.6	126.0	136.2	137.0	115.8	77.0
	8	72.5	69.0	72.0	102.0	139.7	78.0	104.5	70.0
	9	71.0	66.0	68.0	95.0	108.0	93.0	100.0	63.0
	10	60.0	62.5	67.0	69.0	70.5	68.0	68.0	66.0
	11	67.0	63.4	65.0	81.5	117.5	115.0	94.0	70.0
	12	68.0	68.0	68.0	78.0	79.0	90.0	90.0	67.5
	13	66.0	65.0	. .	121.0	131.5	124.0	93.5	59.0
	14	53.0	. .	51.5	114.5	125.0	129.8	79.0	66.0
	15	54.0	52.0	62.5	82.5	81.0	99.0	71.5	68.0
	16	66.5	65.5	70.8	90.0	118.5	114.0	78.5	71.0
	17	71.0	70.0	68.0	80.0	89.0	97.8	100.0	60.0
	18	58.0	55.0	56.0	116.0	130.0	132.0	66.0	59.5
	19	56.0	55.8	61.0	123.0	119.0	98.0	87.0	74.5
	20	72.0	70.0	72.0	122.0	135.0	132.0	102.5	67.0
	21	66.5	65.5	69.0	127.0	141.5	141.0	140.5	74.0
	22	76.0	74.8	74.5	110.0	128.0	138.0	97.5	72.0
	23	70.0	68.0	74.5	104.0	129.0	107.5	100.0	66.0
	24	64.0	64.0	72.0	113.0	140.0	112.0	86.0	71.0
	25	69.5	68.0	74.0	125.5	112.0	134.0	97.0	71.5
	26	68.5	67.0	67.5	124.0	137.0	137.0	80.5	66.0
	27	66.0	65.0	72.0	112.0	105.5	129.0	91.5	70.0
	28	71.0	70.0	74.0	124.0	106.0	138.0	102.0	77.0
	29	74.0	70.5	74.0	125.0	137.2	114.5	78.2	69.0
	30	69.0	69.0	68.5	100.0	85.0	91.5	78.0	68.0
	31	63.0	61.0	71.0	106.0	109.0	128.0	85.0	70.5
Hourly means.		66.42	65.46	68.83	108.35	117.53	117.10	92.20	68.55

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
August	1	70.0	68.0	69.5	93.0	100.0	113.0	87.0	74.0
	2	72.0	69.5	76.0	117.0	140.5	78.0	95.5	74.5
	3	74.0	74.0	80.0	97.0	136.4	95.0	84.0	74.0
	4	72.0	70.0	75.0	115.0	135.0	. .	90.0	72.0
	5	72.5	72.0	70.0	123.0	113.0	135.0	88.0	80.0
	6	74.0	71.0	72.0	114.0	129.0	85.0	78.0	75.0
	7	70.0	69.0	74.5	94.0	77.5	.	87.0	63.5
	8	60.5	59.0	60.0	120.0	118.0	111.0	82.0	61.0
	9	60.0	59.5	68.0	118.0	128.0	133.5	80.0	64.0
	10	60.0	61.0	. .	96.5	93.0	93.2	80.0	70.0
	11	67.0	66.5	69.0	121.0	130.0	126.0	96.0	62.0
	12	64.5	62.0	64.0	110.0	126.0	101.0	77.5	61.0
	13	57.0	56.0	56.5	116.0	128.0	117.0	73.8	58.0
	14	58.0	58.5	66.0	87.5	111.0	88.5	82.0	65.8
	15	66.1	65.8	69.0	118.0	99.0	125.0	86.0	67.0
	16	65.0	63.0	68.0	100.0	132.0	. .	83.7	66.0
	17	64.0	63.5	68.5	92.0	105.0	. .	76.0	69.5
	18	67.5	66.0	68.0	88.5	100.0	. .	74.1	70.0
	19	69.0	63.0	63.5	92.0	126.0	129.0	87.0	66.5
	20	63.0	62.0	63.0	116.0	136.0	114.0	78.0	68.0
	21	66.5	65.0	68.0	117.0	135.0	135.5	95.0	71.0
	22	71.5	70.0	71.7	112.0	103.0	100.0	85.9	70.0
	23	58.0	53.0	49.0	100.0	113.0	. .	65.5	54.5
	24	54.5	49.5	50.0	109.0	107.0	110.0	70.0	52.0
	25	50.8	47.0	50.0	108.0	128.0	120.0	76.5	58.0
	26	55.0	57.0	102.0	110.5	124.0	125.5	78.0	63.5
	27	62.0	60.0	59.0	115.0	134.0	128.0	80.0	67.5
	28	63.5	60.0	60.0	112.0	125.0	123.0	72.0	66.0
	29	62.0	63.0	65.5	71.5	81.0	. .	75.0	64.7
	30	62.0	64.0	67.5	82.0	129.0	122.0	79.0	69.5
	31	68.0	68.0	70.0	118.0	128.0	98.0	83.0	70.0
Hourly means.		64.51	63.09	67.12	105.92	118.40	112.76	81.47	67.05

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
September	1	67.0	65.0	65.7	119.0	130.5	119.0	. .	70.0
	2	69.0	67.0	68.5	92.0	121.7	99.0	84.5	74.5
	3	71.5	70.0	72.0	113.0	139.0	131.0	90.0	76.0
	4	72.0	71.5	72.0	117.0	105.0	130.0	79.0	74.0
	5	73.5	72.0	73.0	91.0	130.0	133.0	79.8	75.0
	6	74.0	70.0	70.0	120.0	136.0	135.0	83.5	76.5
	7	72.2	72.0	73.5	114.0	135.0	105.5	80.0	73.0
	8	72.5	72.0	73.0	97.0	115.0	97.0	81.0	76.0
	9	74.0	72.0	70.0	82.0	80.0	79.5	74.0	71.0
	10	70.5	70.0	68.4	86.0	93.0	124.0	78.5	74.2
	11	73.0	72.5	74.0	98.5	122.0	113.0	77.0	71.0
	12	70.0	69.0	72.5	120.8	115.0	135.2	79.5	73.0
	13	72.5	71.0	69.0	95.0	115.0	122.5	80.0	73.0
	14	73.0	72.3	73.0	96.5	124.5	99.0	78.0	73.0
	15	69.5	69.0	51.0	90.0	133.0	124.0	77.5	68.0
	16	63.0	61.5	57.5	113.0	127.0	120.0	66.0	59.0
	17	57.0	56.5	55.0	112.0	129.0	122.0	69.0	61.0
	18	60.8	58.0	60.0	108.0	85.0	77.2	62.0	58.0
	19	54.0	53.5	49.5	91.0	119.5	107.0	60.0	. .
	20	49.0	49.0	45.5	101.5	125.0	110.0	62.0	55.8
	21	56.0	53.0	54.0	110.0	129.0	112.0	69.0	64.2
	22	61.0	59.0	58.5	114.0	124.0	114.0	76.0	70.0
	23	61.5	58.0	59.0	85.5	121.5	107.0	69.0	61.0
	24	58.0	56.2	56.0	106.0	124.0	107.0	68.0	65.0
	25	65.0	63.0	62.0	76.0	90.5	84.0	69.5	67.0
	26	62.5	57.5	54.0	111.0	124.0	106.0	59.5	53.0
	27	48.5	46.0	45.5	102.5	127.0	103.0	59.5	52.0
	28	49.0	47.0	43.7	102.0	120.0	96.0	56.0	52.0
	29	51.0	49.0	48.0	105.0	125.5	119.0	62.0	54.5
	30	51.0	48.0	53.0	91.0	126.0	102.0	67.0	61.0
Hourly means.		64.05	62.35	61.56	102.01	119.72	111.10	72.30	66.02

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
October	1	60.0	59.0	58.0	83.5	121.5	91.5	58.5	54.0
	2	53.0	51.0	49.0	94.5	120.0	100.0	68.2	51.0
	3	48.5	41.0	40.8	100.0	118.0	76.2	54.0	48.5
	4	51.0	49.0	42.0	64.0	70.5	82.0	49.0	45.3
	5	45.5	40.0	38.4	85.0	104.0	77.0	50.0	40.0
	6	41.5	39.4	38.5	93.2	83.2	72.4	45.2	41.0
	7	37.0	34.0	32.8	94.5	117.5	90.0	60.2	50.0
	8	51.0	46.0	45.0	106.0	125.2	105.0	63.0	60.0
	9	56.0	56.0	52.0	105.0	125.0	103.5	63.5	56.0
	10	53.0	51.0	51.0	104.0	126.0	102.2	65.0	58.0
	11	54.5	52.5	49.5	105.2	126.0	100.0	62.2	58.0
	12	53.0	50.5	50.0	100.5	107.5	90.5	62.0	49.0
	13	45.0	42.5	36.0	68.0	85.5	69.0	47.0	50.0
	14	50.0	47.5	44.5	58.0	67.2	53.7	49.0	48.0
	15	49.0	49.0	49.0	55.6	58.4	59.6	52.0	50.5
	16	49.2	47.0	42.6	87.2	103.5	94.0	43.5	40.0
	17	37.5	34.5	35.0	38.5	105.0	79.0	50.0	49.0
	18	49.0	49.5	50.0	55.0	65.0	66.5	59.0	57.0
	19	50.0	48.0	47.0	71.0	72.5	79.0	49.0	43.0
	20	44.5	48.5	46.0	91.0	105.5	83.5	47.2	47.0
	21	44.8	41.5	38.0	90.0	106.0	93.5	46.0	35.0
	22	33.0	32.0	32.0	87.0	104.0	93.0	45.2	41.5
	23	42.5	45.5	44.5	57.0	104.6	92.4	54.0	51.0
	24	49.5	48.0	38.5	69.0	92.2	69.5	38.4	36.0
	25	34.2	32.5	31.0	80.0	101.5	91.0	43.5	37.8
	26	36.0	32.5	34.0	68.0	103.0	. .	43.0	42.0
	27	42.0	42.0	41.0	66.4	73.0	72.0	56.0	55.0
	28	55.5	59.0	59.0	94.5	86.0	78.0	53.0	45.0
	29	34.8	42.0	39.0	82.0	97.0	81.5	40.0	37.0
	30	31.0	27.0	28.0	71.0	89.0	88.0	39.0	37.5
	31	43.0	45.5	46.0	49.5	50.0	75.5	49.0	46.0
Hourly means.		46.27	44.60	42.84	79.81	97.20	83.63	51.76	47.07

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
November	1	45.0	43.0	38.0	82.0	99.0	87.0	46.5	41.5
	2	44.0	46.5	48.0	56.0	64.0	57.0	53.8	53.8
	3	53.5	49.5	48.5	60.4	72.5	66.0	49.8	49.0
	4	48.0	46.5	47.0	50.5	51.4	51.0	47.0	46.0
	5	37.5	43.0	35.5	67.0	60.0	51.0	35.0	32.0
	6	31.5	26.0	26.0	80.0	96.5	83.5	39.0	39.0
	7	38.5	39.8	34.0	54.5	96.0	79.2	35.1	27.4
	8	26.5	25.0	24.0	70.0	91.0	80.0	34.7	32.5
	9	33.0	36.2	32.5	49.3	98.0	89.0	46.0	39.0
	10	38.5	37.0	29.0	78.0	88.0	82.5	39.0	33.0
	11	29.5	25.0	23.0	65.2	88.0	74.0	28.0	23.5
	12	23.0	22.0	21:2	63.0	90.0	80.0	34.0	32.0
	13	27.5	26.0	25.5	72.0	99.0	97.0	48.0	39.0
	14	33.0	31.0	29.0	73.0	109.0	95.8	44.5	37.0
	15	32.5	31.0	30.0	74.0	108.0	99.0	50.5	44.0
	16	40.0	38.0	37.0	78.0	110.0	98.0	57.0	56.0
	17	57.8	57.0	58.0	68.2	107.0	102.0	60.5	55.0
	18	52.0	48.2	45.7	80.0	89.5	87.0	52.0	52.0
	19	50.0	48.0	45.0	75.0	102.0	73.0	49.0	42.0
	20	43.0	42.5	44.0	47.5	51.0	45.0	43.7	43.0
	21	42.0	42.0	41.5	46.0	57.0	51.0	45.0	43.0
	22	41.5	38.5	36.0	76.0	67.0	49.8	45.0	42.0
	23	41.5	41.0	40.5	50.0	64.0	50.5	41.5	40.0
	24	34.0	33.5	33.7	61.0	91.0	79.0	41.0	37.5
	25	36.0	35.5	34.5	78.0	93.0	86.0	39.5	35.0
	26	35.0	36.0	37.5	48.5	87.0	76.0	41.0	39.5
	27	30.5	34.0	35.0	75.5	93.0	63.5	40.0	37.0
	28	35.0	30.0	26.0	73.0	90.0	79.0	35.0	32.5
	29	36.8	35.0	35.0	35.5	35.7	34.5	33.5	34.0
	30	31.0	29.0	30.8	45.8	76.5	47.0	37.0	38.0
Hourly means.		38.25	37.19	35.71	64.43	84.14	73.11	43.05	39.84

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.		°	°	°	°	°	°	°	°
December	1	40.5	38.8	35.8	56.0	87.5	65.0	34.5	30.0
	2	29.5	30.5	29.0	70.0	90.5	62.0	45.5	44.5
	3	49.8	47.0	46.0	58.5	72.5	65.5	54.0	54.0
	4	55.0	50.0	49.0	73.5	97.5	96.5	63.0	61.0
	5	60.8	59.5	59.0	64.0	71.5	54.8	44.5	40.0
	6	35.0	34.5	28.0	50.5	61.0	44.0	36.0	36.0
	7	38.0	38.8	38.0	42.0	75.0	66.2	43.0	40.0
	8	34.5	29.5	27.0	59.0	80.5	72.0	28.3	24.0
	9	23.0	22.0	21.0	31.8	37.5	33.0	32.0	32.0
	10	32.8	31.0	27.0	52.5	62.0	76.0	32.0	28.0
	11	28.5	29.0	33.0	68.0	63.0	57.0	46.5	46.0
	12	43.0	42.0	42.0	45.0	52.0	56.0	50.0	48.0
	13	45.0	44.0	41.0	47.0	50.8	41.3	33.5	31.5
	14	30.0	29.0	28.5	53.5	74.0	65.0	23.0	19.0
	15	15.5	13.0	16.0	28.0	38.0	32.8	14.5	10.0
	16	7.5	7.0	6.5	29.0	66.0	35.0	20.5	21.0
	17	24.0	25.0	23.0	32.0	46.5	59.7	24.0	24.0
	18	27.0	27.0	27.0	47.0	54.0	41.0	32.0	32.5
	19	33.0	34.5	36.0	40.0	44.5	47.0	42.5	44.0
	20	48.0	48.2	42.0	47.0	46.5	40.3	33.5	35.0
	21	35.0	35.0	36.0	53.0	78.0	63.0	25.0	21.2
	22	15.5	16.5	16.0	44.0	77.0	68.0	25.0	21.0
	23	16.5	13.0	11.0	41.5	75.5	65.0	22.5	20.5
	24	19.0	20.0	25.5	33.0	35.0	34.5	32.0	32.0
	25	32.0	32.0	31.0	40.5	48.0	43.0	37.0	35.0
	26	35.0	37.0	35.5	39.5	43.0	45.5	52.0	50.0
	27	52.0	56.0	56.0	60.0	79.0	63.0	53.0	46.0
	28	44.0	42.0	42.5	45.3	57.0	69.0	40.0	37.0
	29	32.0	32.0	29.0	61.0	84.0	50.0	35.7	33.0
	30	33.0	33.0	31.5	32.1	33.0	39.0	32.0	18.0
	31	20.0	24.0	24.5	32.0	47.0	38.0	29.0	29.0
Hourly means.		33.37	32.93	32.04	47.62	62.17	53.16	36.00	33.65

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865.						1865.						1865.					
Jan. 1	0	NW.	3	C. K.	4	Jan. 2	0	W.	1	K.	10	Jan. 3	0	S.	1	C. K.	10
	3	NW.	2	K.	10		3	NW.	1	S.	1		3	W.	1	K.	10
	6	NW.	1	K.	10		6	N.	1	K.	9		6	W.	1	K.	10
	9	W. NW.	2	C. K.	9		9	S.	1	K.	10		9	NE.	1	C. K.	10
	Noon	NW.	2	C. K.	9		Noon	S.	1	K.	8		Noon	E.	1	C. K.	10
	3	NW.	3	C. K.	4		3	S.	1	K.	9		3	NE.	1	N.	10
	6	NW.	1	S.	1		6	SW.	1	C. K.	6		6	E.	1	N.	10
	9	NW.	1	Clear	0		9	SW.	1	C. K.	9		9	NE.	1	N.	10
Jan. 4	0	NW.	1	N.	10	Jan. 5	0	NW.	1	C.	3	Jan. 6	0	S.	1	C. K.	10
	3	NW.	1	C. S.	2		3	W.	1	C. S.	4		3	S.	1	C. K.	7
	6	NW.	1	C. K.	10		6	W.	1	S.	2		6	S.	1	K.	10
	9	NW.	1	C.	1		9	S.	1	C. K.	4		9	S. SE.	1	N.	10
	Noon	NW.	4	C.	3		Noon	S.	2	C. K.	2		Noon	NE.	1	N.	10
	3	NW.	4	C.	1		3	S.	1	C. K.	2		3	NW.	1	N.	10
	6	NW.	2	Clear	0		6	S.	1	C.	1		6	N. NE.	2	N.	10
	9	NW.	1	C.	4		9	SE.	1	C. K.	10		9	NW.	1	N.	10
Jan. 7	0	NW.	1	Fog	10	Jan. 8	0	NW.	3	Clear	0	Jan. 9	0	S.	1	C. S.	5
	3	NW.	1	N.	10		3	N. NW.	1	Clear	0		3	S.	1	C. K.	8
	6	NW.	2	K.	10		6	N.	1	Clear	0		6	S.	1	C. K.	9
	9	W. NW.	1	C. K.	10		9	N. NW.	1	S.	1		9	S.	1	C. K.	8
	Noon	NW	4	C. K.	10		Noon	S.	1	C. S.	3		Noon	E. SE.	1	C. K.	9
	3	NW.	5	N.	10		3	S.	1	C. S.	4		3	SE.	1	C. K.	10
	6	NW.	5	S.	1		6	S.	1	C. S.	1		6	SE.	1	C. K.	10
	9	NW.	4	Clear	0		9	S. SE.	1	C.	3		9	NE.	1	K.	10
Jan. 10	0	NE.	1	N.	10	Jan. 11	0	NW.	3	C. K.	7	Jan. 12	0	W.	1	C.	3
	3	NE.	1	N.	10		3	NW.	4	C.	5		3	SW.	1	Clear	0
	6	NE.	1	N.	10		6	NW.	4	C. K.	10		6	NW.	2	Clear	0
	9	N.	1	N.	10		9	NW.	3	S.	1		9	NW.	1	Clear	0
	Noon	S.	1	N.	10		Noon	NW.	3	Clear	0		Noon	NW.	1	Clear	0
	3	S. SE.	2	N.	10		3	NW.	2	Clear	0		3	S. SW.	1	Clear	0
	6	SW.	1	K.	10		6	NW.	1	Clear	0		6	S.	1	S.	1
	9	W.	2	C. K.	9		9	NW.	1	Clear	0		9	S. SE.	1	Clear	0
Jan. 13	0	SE.	1	Clear	0	Jan. 14	0	S.	1	K.	10	Jan. 15	0	NW.	3	C. K.	2
	3	SW.	1	C. K.	1		3	N. NW.	1	K.	10		3	NW.	2	C. K.	10
	6	SW.	1	C. K.	2		6	W. NW.	1	K.	10		6	NW.	2	C. S.	4
	9	NW.	1	C. K.	9		9	W.	1	K. S.	9		9	NW.	1	C. K.	2
	Noon	SE.	1	C. K.	7		Noon	W. NW.	6	C. K.	6		Noon	NW.	3	C. S.	2
	3	S.	1	C. K.	10		3	W. NW.	5	C. K.	10		3	W. SW.	1	C. K. S.	7
	6	S. SE.	1	C. S.	4		6	NW.	3	C. K. S.	8		6	SE.	1	C. K.	9
	9	SE.	1	K.	10		9	NW.	2	C. K.	4		9	W.	1	S.	4

REMARKS.

January 3. Commenced snowing at 2h. p. m. Depth, 3 inches.
5. Lunar halo at 10h. 30m. p. m.
6. Commenced raining at 8h. a. m. Amount of rain, including the snow on the 3d and 4th instant, 1. 120 inch.
7. Rain and snow from 1h. a. m. to 4h. a. m., and heavy squalls through the day. Amount of rain and snow, 0. 130 inch.
8. A very large and brilliant meteor in the NE. at 9h. p. m.
10. Commenced raining at 0h. and continued till 3h. 20m. p. m. Amount of rain, 1. 570 inch.

Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865. Jan. 16	0	SW.	1	K.	10	1865. Jan. 17	0	E.	1	C. K.	4	1865. Jan. 18	0	NW.	1	C. S.	4
	3	NW.	3	C. K.	7		3	NE.	1	C.	3		3	NW.	1	C. K.	10
	6	NW.	3	C. S.	2		6	NE.	1	K.	10		6	NW.	1	C. K.	10
	9	NW.	2	C.	2		9	N. NE.	1	K.	10		9	E.	1	K.	10
	Noon	NW.	4	Clear	0		Noon	W. NW.	1	C. K.	10		Noon	S. SE.	1	C. K.	10
	3	NW.	1	Clear	0		3	W. NW.	1	C. K.	10		3	SE.	1	C. K.	9
	6	E. NE.	1	C. S.	2		6	NW.	2	K.	10		6	S.	1	C. K. S.	9
	9	E. SE.	1	Haze			9	NW.	1	C. K.	4		9	NW.	1	C. K.	2
Jan. 19	0	N. NW.	1	S.	1	Jan. 20	0	NW.	1	C.	2	Jan. 21	0	E.	1	Clear	0
	3	NE.	1	Clear	0		3	N. NW.	1	Clear	0		3	E.	1	K.	10
	6	NE.	1	Clear	0		6	SW.	1	C.	2		6	NE.	1	K.	10
	9	E. SE.	1	C. K.	10		9	NW.	1	Clear	0		9	NE.	1	N.	10
	Noon	E. SE.	1	C. K.	10		Noon	N.	1	C. S.	3		Noon	NE.	2	N.	10
	3	SE.	1	C. K.	10		3	S.	1	Clear	0		3	N. NE.	2	N.	10
	6	E.	1	K.	10		6	E.	1	C. S.	2		6	NE.	2	N.	10
	9	E.	1	K.	10		9	NE.	1	C.	2		9	NE.	2	N.	10
Jan. 22	0	NE.	2	N.	10	Jan. 23	0	NE.	1	Fog	10	Jan. 24	0	NW.	2	S.	1
	3	NE.	2	K.	10		3	NE.	1	Fog	10		3	NW.	1	Clear	0
	6	NE.	1	K.	10		6	NE.	1	Fog	10		6	NW.	1	C. S.	2
	9	NE.	1	K.	10		9	NE.	1	N.	10		9	W.	1	C. K.	8
	Noon	NE.	1	K.	10		Noon	NW.	1	N.	10		Noon	NW.	2	C. K.	7
	3	NE.	1	K.	10		3	NW.	2	N.	10		3	NW.	2	C. K.	5
	6	NE.	1	K.	10		6	NW.	2	K.	10		6	NW.	3	K.	10
	9	NE.	1	Mist	10		9	NW.	2	C. S.	4		9	NW.	3	C. K.	10
Jan. 25	0	NW.	1	C.	2	Jan. 26	0	NW.	2	Clear	0	Jan. 27	0	NW.	2	Clear	0
	3	NW.	1	Clear	0		3	NW.	1	C.	4		3	NW.	1	C.	2
	6	NW.	1	S.	1		6	NW.	1	C. S.	4		6	NW.	3	C. K.	10
	9	W.	1	C.	1		9	SW.	1	K.	8		9	W. NW.	2	C. S.	6
	Noon	W.	2	C.	2		Noon	W.	2	C. K.	7		Noon	W.	1	C. S.	5
	3	W. NW.	1	Clear	0		3	NW.	1	C. K.	5		3	NW.	1	C. K.	8
	6	NW.	1	Clear	0		6	NW.	1	S.	2		6	NW.	2	N.	10
	9	NW.	1	Clear	0		9	NW.	2	Clear	0		9	NW.	2	C.	5
Jan. 28	0	NW.	3	C. K.	10	Jan. 29	0	NW.	1	K.	10	Jan. 30	0	NW.	1	K.	10
	3	NW.	1	C. K.	4		3	NW.	2	C. K.	9		3	NW.	1	C. K.	7
	6	NW.	2	S.	1		6	NW.	1	C. K. S.	8		6	NW.	1	Clear	0
	9	NW.	2	Clear	0		9	NW.	2	C. S.	2		9	NW.	1	Clear	0
	Noon	NW.	2	S.	1		Noon	NW.	2	C. K.	10		Noon	NW.	1	Clear	0
	3	NW.	2	C. S.	3		3	NW.	2	C. K.	10		6	NW.	1	Clear	0
	6	W.	1	N.	10		6	NW.	1	K.	10		3	NW.	1	Clear	0
	9	NW.	2	K.	10		9	NW.	1	K.	10		9	NW.	1	Clear	0

REMARKS.

January 17. Snowing lightly at 10h. 35m. a. m.

21. Raining moderately at 8h. 50m. a. m.; soon changed to sleet. Amount of rain and sleet, 1,416 inch. Rain-guage somewhat obstructed by sleet.

22. At 0h. the Sun Thermometer encased in ice.

24. Snowing lightly at 10h. 40m. a. m.

27. Snowing lightly at 7h. a. m., and at 5h. 40m. p. m.

28. Snowing lightly at 3h. 40m. p. m.

Day	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865.						1865.						1865.					
Jan. 31	0	NW.	1	Clear	0												
	3	NW.	1	Clear	0												
	6	NW.	1	C.	2												
	9	SE.	1	C. S.	6												
	Noon	S. SE.	1	C. K.	10												
	3	S.	1	C. K. S.	9												
	6	N.	1	C. K.	6												
	9	NW.	1	C. K.	10												
Feb. 1	0	NW.	1	C. K.	9	Feb. 2	0	NW.	1	C. S.	4	Feb. 3	0	NW.	1	C.	2
	3	NW.	1	C. S.	2		3	NW.	1	C.	6		3	NW.	1	C. S.	2
	6	NW.	1	C. K. S.	6		6	NW.	1	C.	4		6	NW.	1	C. K. S.	10
	9	NW.	1	K.	10		9	N. NW.	1	C.	9		9	NE.	1	K.	10
	Noon	N. NW.	1	C. K.	9		Noon	N.	1	C. K.	3		Noon	SE.	1	C. K.	10
	3	NW.	2	C. K.	7		3	N.	1	C. K.	7		3	S.	1	N.	10
	6	NW.	1	C. K. S.	2		6	N.	1	S.	1		6	S. SE.	1	K.	10
	9	NW.	1	Clear	0		9	NW.	1	Clear.	0		9	S. SE.	1	N.	10
Feb. 4	0	S.	1	K.	10	Feb. 5	0	W.	1	C. K.	6	Feb. 6	0	NW.	2	S.	1
	3	SE.	1	Mist	10		3	NW.	1	C. K.	4		3	NW.	1	Clear	0
	6	NE.	1	Mist	10		6	W. NW.	2	C. K. S.	5		6	NW.	1	Clear	0
	9	S.	1	Fog	10		9	W. NW.	4	C.	2		9	NW.	3	C. K. S.	4
	Noon	NW.	1	C. K.	3		Noon	W. NW.	5	C.	2		Noon	NW.	2	C. K.	3
	3	NW.	4	C. K.	4		3	NW.	4	C. K.	8		3	N.	1	C. K.	2
	6	NW.	1	S.	1		6	NW.	4	C. K. S.	3		6	N.	1	C. S.	2
	9	NW.	1	C.	2		9	NW.	3	C. K. S.	3		9	NW.	1	C. S.	3
Feb. 7	0	N.	1	C.	6	Feb. 8	0	NW.	3	K.	10	Feb. 9	0	NW.	1	Clear.	0
	3	NE.	1	K.	10		3	NW.	2	C. K.	8		3	W. NW.	1	C. K.	3
	6	NE.	1	K.	10		6	N. NW.	1	Clear	0		6	W.	1	C. K. S.	9
	9	NE.	1	N.	10		9	S.	1	C. S.	2		9	W.	2	C.	8
	Noon	NE.	1	N.	10		Noon	NW.	3	C. K.	2		Noon	NW.	2	C. K.	10
	3	NE.	1	N.	10		3	W.	2	C. K.	9		3	W. NW.	3	C. K.	9
	6	N. NE.	2	N.	10		6	NW.	3	K.	10		6	NW.	2	C. K. S.	8
	9	N. NW.	3	N.	10		9	NW.	2	K.	10		9	NW.	2	C. K.	9
Feb. 10	0	NW.	2	Clear	0	Feb. 11	0	SE.	1	C. K.		Feb. 12	0	NE.	1	C. K.	10
	3	NW.	1	Clear	0		3	W. SW.	1	C. K.	6		3	E.	1	K.	10
	6	SE.	1	Clear	0		6	N.	1	C. K.	6		6	NE.	1	N.	10
	9	SW.	1	C. K.	9		9	W.	1	C.	4		9	W.	2	K.	10
	Noon	S.	1	C. K.	9		Noon	NW.	1	C.	2		Noon	NW.	4	C. K.	8
	3	S.	1	C. K. S.	8		3	NW.	1	C.	1		3	N. NW.	4	C. K.	6
	6	W.	1	C. K.	10		6	N. NE.	1	C. S.	2		6	N. NW.	3	C. S.	4
	9	NW.	1	C.	2		9	N. NE.	1	C. K.	10		9	NW.	1	C. S.	2

REMARKS.

February 3. Raining lightly at 1h. 30m. p. m.; changed to snow at 2h. p. m. Amount, 0.050 inch.
7. Snowing at 9h. a. m. Rain at 6h. p. m. Amount of rain and snow, 0.650 inch; depth of snow, 4 inches.
11. Snowing lightly at intervals during the morning.
12. Snowing lightly at intervals from 4h. a. m. to 4h. p. m.

Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865.						1865.						1865.					
Feb. 13	0	NW.	2	Clear	0	Feb. 14	0	NW.	1	Clear	0	Feb. 15	0	S.	1	C. K.	10
	3	NW.	2	Clear	0		3	NW.	1	Clear	0		3	N. NE.	1	K.	10
	6	NW.	2	Clear	0		6	NW.	1	Clear	0		9	S. SE.	1	N.	10
	9	N. NW.	1	Clear	0		9	W.	1	Clear	0		9	SE.	1	N.	10
	Noon	NW.	1	Clear	0		Noon	SE.	1	Clear	0		Noon	NE.	1	N.	10
	3	NW.	1	Clear	0		3	SE.	1	C.	2		3	N. NE.	1	N.	10
	6	NW.	1	Clear	0		6	S.	1	S.	1		6	N.	1	K.	10
	9	W. NW.	1	Clear	0		9	SW.	1	C. K.	6		9	NW.	1	N.	10
Feb. 16	0	W. NW.	1	K.	10	Feb. 17	0	NW.	1	C. K.	9	Feb. 18	0	N.	1	N.	10
	3	W.	1	C. K.	10		3	NW.	1	Clear	0		3	NW.	1	K.	10
	6	W.	1	K.	10		6	NW.	1	C. S.	1		6	W. NW.	1	N.	10
	9	SW.	1	Fog	10		9	W.	1	Haze			9	NW.	2	C. K.	5
	Noon	S.	1	Fog	10		Noon	S.	1	Haze			Noon	NW.	3	C. K.	5
	3	Calm	0	Fog	10		3	S.	1	K.	10		3	NW.	2	C. K.	6
	6	S.	1	K.	10		6	NE.	1	N.	10		6	W.	3	C. K.	8
	9	SE.	1	K.	10		9	NE.	1	N.	10		9	W.	1	K.	10
Feb. 19	0	W. NW.	1	C. K.	9	Feb. 20	0	NW.	1	C.	2	Feb. 21	0	NW.	1	Haze	
	3	NW.	1	C. K.	8		3	NW.	1	Clear	0		3	NW.	1	Clear	0
	6	NW.	1	C. K. S.	2		6	NW.	1	Clear	0		6	NW.	1	Clear	0
	9	W. NW.	2	C. S.	4		9	NW.	1	S.	1		9	NE.	1	Clear	0
	Noon	NW.	2	C.	3		Noon	NW.	1	C. S.	1		Noon	NE.	1	C.	1
	3	W.	2	C.	1		3	NW.	1	C.	1		3	N. NE.	1	C.	1
	6	N.	1	C. S.	2		6	W. NW.	1	S.	1		6	NE.	2	C. S.	2
	9	NW.	1	Clear	0		9	NW.	1	Clear	0		9	NE.	1	Clear	0
Feb. 22	0	N.	1	Clear	0	Feb. 23	0	SE.	1	K.	10	Feb. 24	0	NW.	1	K.	10
	3	Calm	0	Clear	0		3	SE.	1	K.	10		3	NW.	1	K. S.	10
	6	SE.	1	C.	4		6	S.	1	Mist	10		6	NW.	1	C. K.	4
	9	S.	1	C. K.	10		9	S.	1	K.	10		9	N.	1	C. K.	2
	Noon	SE.	2	C. K.	10		Noon	S.	1	N.	10		Noon	NE.	2	C. K.	7
	3	SE.	1	C. K.	10		3	S.	1	N.	10		3	NE.	1	C. K.	7
	6	S.	1	N.	10		6	S.	1	N.	10		6	N.	1	C. S.	6
	9	SE.	1	N.	10		9	S.	1	Fog	10		9	N.	1	S.	1
Feb. 25	0	NE.	1	S.	1	Feb. 26	0	NE.	1	N.	10	Feb. 27	0	NW.	4	C. K.	8
	3	NE.	1	C. K.	6		3	NE.	1	N.	10		3	NW.	3	C. K.	6
	6	NE.	1	C. K.	10		6	S.	1	K.	10		6	NW.	2	C. K.	10
	9	NE.	1	K.	10		9	S. SW.	2	C. K.	10		9	N. NW.	1	C. S.	4
	Noon	NE.	1	N.	10		Noon	S.	2	C. K.	7		Noon	N.	1	C. S.	4
	3						3	NW.	2	C. K.	9		3	NE.	1	C.	3
	6	N.	1	N.	10		6	W.	1	C. S.	4		6	E.	1	C. K.	6
	9	N.	1	N.	10		9	NW.	2	C.	1		9	E.	1	C. K.	10

REMARKS.

February 15. Rain and sleet at 4h. 20m. a. m. Amount, 0. 900 inch.
17. Rain at 4h. 10m. p. m. At 4h. 40m. changed to snow in large flakes. Amount of snow and rain, 0. 476 inch.
18. Snowing lightly at 0h., soon changed to light rain.
20. A few meteors between 0h. and 1h. A heavy white frost in the morning.
22. A brilliant meteor in the N. about 0h. Commenced raining at 5h. 30m. p. m. Amount 0. 070 inch.
23. Rain at 12h. Amount, 0. 280 inch.
25. Commenced raining at 11h. 40m. a. m., and continued through the day and night. Amount, 1. 100 inch.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865.						1865.						1865.					
Feb. 28	0	NE.	2	K.	10												
	3	NE.	1	K.	10												
	6	NE.	1	K.	10												
	9	NE.	1	C. K.	8												
	Noon	S. SE.	1	C. K.	9												
	3	E. SE.	1	C. K.	10												
	6	SE.	1	C.	2												
	9	NE.	1	Clear	0												
Mar. 1	0	NW.	1	Clear	10	Mar. 2	0	E.	1	K.	10	Mar. 3	0	N.	1	K.	10
	3	NE.	1	K.	10		3	NE.	1	K.	10		3	N. NW.	1	N.	10
	6	NE.	1	K.	10		6	NE.	1	K.	10		6	N. NW.	1	N.	10
	9	NE.	1	K.	10		9	E.	1	K.	10		9	E.	1	N.	10
	Noon	NE.	1	C. K.	10		Noon	NE.	2	N.	10		Noon	SW.	1	N.	10
	3	E.	1	C. K.	10		3	E. NE.	1	N.	10		3	S.	1	K.	10
	6	E.	1	C. K.	10		6	NE.	1	N.	10		6	E.	1	K.	10
	9	E.	1	K.	10		9	NE.	1	Mist	10		9			Mist	10
Mar. 4	0	E.	1	N.	10	Mar. 5	0	NW.	2	C. S.	1	Mar. 6	0	W.	1	Clear	0
	3	E.	1	N.	10		3	NW.	1	Clear	0		3	NW.	1	Clear	0
	6	E.	1	N.	10		6	NW.	1	S.	1		6	N. NW.	1	Clear	0
	9	S. SE.	1	N.	10		9	NE.	1	Clear	0		9	NW.	1	C.	1
	Noon	SW.	1	C. K.	9		Noon	E.	1	C.	1		Noon	N.	1	C.	2
	3	NW.	4	C. K.	2		3	NE.	1	C. K.	7		3	S.	1	C.	3
	6	NW.	6	C	1		6	NE.	1	C. K.	3		6	E.	1	C.	4
	9	NW.	4	C. K.	8		9			Clear	0		9	E.	1	C.	3
Mar. 7	0	S.	1	C.	4	Mar. 8	0	SE.	1	C.	3	Mar. 9	0	E.	1	N.	10
	3	SW.	1	C. K.	6		3	SE.	1	C. K.	6		3	E. NE.	2	N.	10
	6	S. SW.	1	C. K. S.	9		6	S.	1	C. K.	5		6	E.	1	K.	10
	9	S.	1	C.	1		9	E.	1	Fog			9	NW.	1	Mist	10
	Noon	S.	1	C.	1		Noon	SE.	1	C. K.	10		Noon	W. NW.	1	C. K.	8
	3	S.	2	C. K.	4		3	SE.	1	C. K.	10		3	NW.	1	C. K.	10
	6	S. SE.	1	C. K.	4		6	SE.	1	N.	10		6	SE.	1	C. K. S.	10
	9	SW.	1	Haze			9	E.	1	K.	10		9	S.	1	K.	10
Mar. 10	0	S. SE.	1	K.	10	Mar. 11	0	N. NW.	1	Clear	0	Mar. 12	0	NW.	1	Clear	0
	3	SW.	1	N.	10		3	NW.	1	Clear	0		3	W.	1	Clear	0
	6	NW.	4	K.	10		6	NW.	1	C. S.	4		6	SW.	1	C. S.	3
	9	NW.	3	N.	10		9	SE.	1	C. S.	6		9	W. SW.	1	C. S.	2
	Noon	NW.	3	C. K.	10		Noon	S.	1	C.	3		Noon	SE.	1	Clear	0
	3	NW.	2	C. K.	2		3	SE.	1	C. S.	2		3	SW.	2	C.	1
	6	NW.	1	Clear	0		6	S.	1	C. S.	2		6	S.	2	C. S.	3
	9	NW.	1	Clear	0		9	W. NW.	1	Clear	0		9	S.	1	Clear	0

February 28. Snowing lightly at 7h. 30m. a. m.
March 2. Raining at 9h. 20m. a. m. Amount, 0.510 inch.
3. Commenced raining at 2h. a. m., and continued during the day. Amount, 0.714 inch.
4. At 6h. 25m. a. m. the wind changed from E. to W., blowing a heavy gale, lasting four or five minutes, accompanied with a heavy shower of rain. Amount, 0.300 inch.
7. Heavy white frost in the morning.
8. Commenced raining at 4h. 45m. p. m. Amount, 0.210 inch.
9. Raining at 0h. Amount, 0.080 inch.
10. Hail and rain at 8h. a. m., with fresh breeze from NW. At 9h. 15m. a light shower of damp snow. Amount of rain and snow, 0.142 inch.

Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865. Mar. 13	0	S.	3	C. K.	8
	3	S.	1	C. K.	8
	6	S.	1	C. K. S.	8
	9	S.	1	C. S.	3
	Noon	S.	2	C.	3
	3	S.	2	C.	2
	6	S.	1	C.	4
	9	S.	1	Clear	0
1865. Mar. 14	0	S.	1	C.	2
	3	SW.	1	C.	4
	6	SW.	1	C. K.	6
	9	S. SW.	2	C.	10
	Noon	S.	2	C. K.	7
	3	S.	3	C. K.	10
	6	SW.	1	C. K.	8
	9	SE.	1	K.	10
1865. Mar. 15	0	S. SE.	1	K.	10
	3	SE.	1	K.	10
	6	S. SE.	1	K.	10
	9	S.	1	N.	10
	Noon	S. SE.	1	N.	10
	3	SE.	1	K.	10
	6	S.	2	C. K.	9
	9	S.	2	C. K.	6
Mar. 16	0	S.	1	C. K.	8
	3	SE.	1	N.	10
	6	SE.	1	Mist.	10
	9	S. SE.	3	C. K.	8
	Noon	S. SE.	3	C. K.	10
	3	S. SE.	3	C. K.	10
	6	S. SE.	3	K.	10
	9	SW.	4	K.	10
Mar. 17	0	W.	6	N.	10
	3	W.	4	K.	10
	6	SW.	1	K. S.	2
	9	SW.	3	Clear	0
	Noon	SW.	2	C.	1
	3	SW.	2	C.	1
	6	SW.	1	C. S.	3
	9	SW.	2	C. K.	4
Mar. 18	0	NW.	3	C. K.	8
	3	S.	2	S.	2
	6	S.	3	S.	1
	9	SW.	1	Clear	0
	Noon	NW.	4	S.	1
	3	NW.	3	Clear	0
	6	N. NW.	2	Clear	0
	9	NW.	1	Clear	0
Mar. 19	0	W.	1	Clear	0
	3	NW.	1	Clear	0
	6	NW.	1	Clear	0
	9	S.	1	C.	4
	Noon	SW.	2	C.	6
	3	S.	1	C.	1
	6	S.	1	C.	2
	9	SW.	1	C.	1
Mar. 20	0	S.	1	C. K.	3
	3	S.	1	C. S.	2
	6	NE.	1	C. K.	10
	9	SW.	1	C. K.	10
	Noon	SE.	1	C. K.	10
	3	SE.	1	C. K.	8
	6	S.	1	C. K.	6
	9	S.	1	C.	2
Mar. 21	0	SW.	1	C.	1
	3	SW.	1	C.	4
	6	SW.	1	C. S.	5
	9	S.	3	C. K.	4
	Noon	S.	4	C. K.	8
	3	S.	4	K.	10
	6	SE.	1	N.	10
	9	SE.	3	N.	10
Mar. 22	0	S.	2	C. K.	7
	3	S.	2	C. K.	10
	6	W.	2	S.	1
	9	SW.	3	C. K.	4
	Noon	W.	4	C. K.	9
	3	NW.	4	C. K.	10
	6	SW.	4	C. K.	7
	9	W.	3	C. S.	4
Mar. 23	0	W.	3	C.	1
	3	SW.	2	C. K.	3
	6	SW.	1	C. K.	8
	9	SW.	2	C. K.	9
	Noon				
	3	W.	4	C. K.	5
	6	NW.	4	C. K.	2
	9	NW.	2	K.	2
Mar. 24	0	NW.	2	C. K.	3
	3	NW.	2	C. K.	2
	6	SW.	1	C. S.	2
	9	NW.	2	C. K.	7
	Noon	W.	3	C. S.	9
	3	W.	3	C. S.	10
	6	NW.	2	C. K.	10
	9	NW.	2	K.	10
Mar. 25	0	NW.	2	K.	10
	3	W.	1	K.	10
	6	W. NW.	1	C. K. S.	9
	9	W.	2	C. K.	10
	Noon	W.	2	C. K.	10
	3	W.	1	N.	10
	6	NW.	2	N.	10
	9	NW.	1	C. K.	4
Mar. 26	0	NW.	3	K.	10
	3	NW.	4	C. K.	10
	6	NW.	3	S.	1
	9	NW.	3	C. K. S.	9
	Noon	N. NW.	3	C. K.	10
	3	NW.	2	C. K.	6
	6	NW.	2	Clear	0
	9	NW.	1	Clear	0
Mar. 27	0	NW.	2	Clear	0
	3	NW.	2	Clear	0
	6	NW.	1	Clear	0
	9	W.	1	Clear	0
	Noon	S.	1	Clear	0
	3	SE.	1	C.	1
	6	S.	1	C.	6
	9	SW.	1	Clear	0

REMARKS.

March 16. At 10h. p. m. the wind changed to SW. and to W.; soon commenced raining, and continued till 2h. 30m. a. m. on the 17th. Amount, 0.610 inch.
21. Raining heavily at 5h. 20m. p. m. Amount, 0.770 inch.
22. Lightning in SW. at 0h.
23. A violent gust of wind with thunder and a few drops of rain at 1h. 30m. p. m. At 3h. 30m. p. m. a much heavier storm of wind, with some rain, unroofing buildings and prostrating trees.
24. At 8h. 20m. a. m. a light shower of damp snow from NW.
26. A large number of meteors appeared from 9h. p. m. to midnight.
27. Several meteors seen during the night.

Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865. Mar. 28	0	SE.	1	C. K.	4	1865. Mar. 29	0	NE.	1	C.	4	1865. Mar. 30	0	SE.	1	K.	10
	3	SE.	1	C. K.	8		3	NE.	1	K.	10		3	E.	1	N.	10
	6	SE.	1	K.	10		6	NE.	1	K.	10		6	E.	1	N.	10
	9	NE.	1	K.	10		9	NE.	1	C. K.	8		9	NE.	1	N.	10
	Noon	SE.	1	C. K.	10		Noon	S.	1	C.	4		Noon	NE.	1	N.	10
	3	E.	1	C. K.	10		3	E. SE.	1	C. K.	8		3	NE.	1	N.	10
	6	E.	1	C. K.	10		6	SE.	1	K.	10		6	NE.	1	N.	10
	9	E.	1	K.	10		9	SE.	1	K.	10		9	NE.	3	N.	10
Mar. 31	0	W.	2	S.	1												
	3	NW.	2	K. S.	2												
	6	NW.	1	C. K. S.	3												
	9	W.	1	N.	10												
	Noon	W.	3	K.	10												
	3	W.	3	N.	10												
	6	W.	3	N.	10												
	9	NW.	2	C. K. S.	8												
April 1	0	W. NW.	1	Clear	0	April 2	0	NW.	1	Clear	0	April 3	0	NE.	1	Clear	0
	3	SW.	1	Clear	0		3	NW.	1	Clear	0		3	NE.	1	C.	4
	6	W.	1	C. S.	3		6	NW.	1	C. K.	7		6	NE.	1	C. K.	6
	9	NW.	4	C. K.	2		9	W. NW.	1	S.	1		9	NE.	1	C. K.	10
	Noon	W.	4	C. K.	1		Noon	NW.	1	C.	2		Noon	E. NE.	1	C. K.	10
	3	NW.	4	C. K.	3		3	W.	1	Clear	0		3	E.	1	C. K.	10
	6	NW.	3	C.	1		6	S.	1	Clear	0		6	E.	1	K.	10
	9	NW.	2	Clear	0		9	S.	1	C.	1		9	E.	1	K.	10
April 4	0	NE.	1	K.	10	April 5	0	NE.	1	K.	10	April 6	0	S.	1	K.	10
	3	NE.	1	K.	10		3	NE.	1	K.	10		3	S. SE.	1	K.	10
	6	NE.	1	K. S.	10		6	NE.	1	C. S.	8		6	S.	1	N.	10
	9	E.	1	K.	10		9	NE.	1	C. K.	9		9	S.	1	N.	10
	Noon	E.	1	C. K.	6		Noon	S.	1	C. K.	10		Noon	S.	1	K.	10
	3	E.	1	C. K.	10		3	SE.	1	C. K.	10		3	S.	3	C. K.	6
	6	E. SE.	2	C. K.	10		6	SE.	1	C. K.	8		6	S.	2	C. K.	9
	9	E.	2	C. K.	10		9	SE.	1	C. K.	9		9	S.	2	C.	4
April 7	0	S.	2	C. S.	6	April 8	0	NW.	2	C.	3	April 9	0	W.	1	C. K.	8
	3	S.	3	K.	10		3	NW.	1	Clear	0		3	W.	1	C. K.	10
	6	S.	3	K.	10		6	NW.	1	Clear	0		6	W.	1	K.	10
	9	S.	2	C. K.	10		9	NW.	2	S.	1		9	NE.	2	C. K.	10
	Noon	NW.	2	K.	10		Noon	W.	2	C.	1		Noon	E. SE.	1	C. K.	10
	3	N.	1	N.	10		3	N.	1	C.	3		3	E. SE.	1	C. K.	10
	6	W.	1	K. S.	9		6	N.	1	C. K.	3		6	NE.	1	K.	10
	9	W. NW.	1	C. S.	4		9	NW.	1	C. K.	2		9	NE.	1	N.	10

REMARKS.

March 30. Commenced raining at 2h. a. m., and continued till 10h. p. m. Amount, 2.576 inches.
31. Lightning in the east at 0h. Light rain at 8h. a. m. Amount, 0.084 inch.
April 1. Raining lightly at 6h. 45m. a. m.
6. Raining lightly at 4h. 40m. a. m.
. Raining lightly at 0h. 10m. and 2h. p. m.
9. Raining at 9h. p. m., and continued till 0h. April 11. Amount of rain, 1.140 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1865. April 10	0	E.	2	N.	10	1865. April 11	0	NE.	1	K.	10	1865. April 12	0	S.	1	Mist	10
	3	E.	1	N.	10		3	NE.	1	Mist	10		3	S.	1	Mist	10
	6	E.	2	N.	10		6	NE.	1	Mist	10		6	S.	1	Fog	
	9	E.	1	N.	10		9	E.	1	Mist	10		9	S.	1	K.	10
	Noon	E.	1	K.	10		Noon	E.	1	K.	10		Noon	S.	2	K.	10
	3	E.	1	N.	10		3	E.	1	K.	10		3	S. SW.	2	K.	10
	6	E. SE.	1	N.	10		6	E.	1	Mist	10		6	NW.	2	N.	10
	9	NE.	1	K.	10		9	E.	1	Mist	10		9	NW.	2	N.	10
April 13	0	W.	1	K.	10	April 14	0	NW.	1	Clear	0	April 15	0	SW.	1	C. K.	5
	3	NW.	1	N.	10		3	W.	1	Clear	0		3	NE.	1	K.	10
	6	NW.	1	N.	10		6	S.	1	Clear	0		6	E.	1	K.	10
	9	NW.	2	K.	10		9	NW.	2	C.	1		9	S.	1	N.	10
	Noon	NW.	3	C. K.	6		Noon	SW.	1	C.	1		Noon	S. SE.	2	C. K.	10
	3	NW.	2	C. K.	3		3	SW.	1	C.	1		3	S.	3	K.	10
	6	NW.	3	C. S.	1		6	SW.	1	Clear	0		6	S.	1	Mist	10
	9	NW.	3	Clear	0		9	SW.	1	C.	3		9	SW.	1	K.	10
April 16	0	W.	1	C. K. S.	4	April 17	0	NW.	1	Clear	0	April 18	0	S.	3	C.	1
	3	W.	2	C. K.	3		3	NW.	2	Clear	0		3	S.	2	K.	10
	6	W.	1	C. K.	2		6	NW.	1	Clear	0		6	S.	2	K.	10
	9	SW.	1	C. K.	9		9	NW.	2	Clear	0		9	S.	2	K.	10
	Noon	W. NW.	2	C.	3		Noon	S.	1	Clear	0		Noon	SW.	4	K.	10
	3	NW.	3	C.	2		3	S.	1	Clear	0		3	SW.	3	C. K.	8
	6	W. NW.	2	Clear	0		6	S.	1	C.	1		6	SW.	2	C. K.	9
	9	NW.	2	Clear	0		9	S.	1	Clear	0		9	NW.	1	C. K.	1
April 19	0	NW.	2	Clear	0	April 20	0	SE.	1	C.	3	April 21	0	NE.	1	K.	10
	3	NW.	1	Clear	0		3	E. NE.	1	K.	10		3	NE.	1	Mist	10
	6	NW.	1	Clear	0		6	NE.	1	C. K.	10		6	NE.	1	Mist	10
	9	N.	1	C.	8		9	E.	1	K.	10		9	NE.	1	Mist	10
	Noon	SW.	1	Clear	0		Noon	E.	1	K.	10		Noon	E.	1	Mist	10
	3	SE.	1	C.	2		3	SE.	1	N.	10		3	NE.	1	C. K.	10
	6	E.	1	C.	2		6	N. NE.	1	K.	10		6	NE.	1	C. K.	10
	9	E.	1	C.	1		9	N. NE.	1	Mist	10		9	NE.	1	C. K.	9
April 22	0	E.	1	K.	10	April 23	0	NW.	1	K.	10	April 24	0	NW.	1	Clear	0
	3	S.	1	K.	10		3	NW.	3	K.	10		3	SE.	1	C. K.	5
	6	SW.	1	C. K.	10		6	NW.	1	C. K.	6		6	S.	1	Clear	0
	9	NW.	2	C.	3		9	NW.	2	C. K.	10		9	W.	2	Clear	0
	Noon	NW.	1	C.	4		Noon	W.	3	C. K.	9		Noon	W.	2	C.	2
	3	NW.	2	C. K.	6		3	W.	3	C. K.	10		3	W.	2	C.	1
	6	N. NW.	2	C. K.	8		6	NW.	3	C.	6		6	W.	1	C.	1
	9	NW.	1	C. K.	9		9	NW.	1	Clear	0		9	NW.	1	Clear	0

REMARKS.

April 12. Raining at 5h. 35m. p. m. Amount, 0.200 inch.
15. Commenced raining at 7h. 30m. a. m. Amount, 0.350 inch.
20. Rain at 3h. p. m. Amount, 0.182 inch.
21. Lightning in the west at 11h. p. m.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865.						1865.						1865.					
April 25	0	W.	1	Clear	0	April 26	0	S.	1	Clear	0	April 27	0	S.	1	Clear	0
	3	W.	1	Clear	0		3	NW.	1	Clear	0		3	SE.	1	Clear	0
	6	SW.	1	Clear	0		6	N. NW.	1	Clear	0		6	S.	1	Haze	
	9	W.	1	Clear	0		9	SE.	1	Haze			9	S. SW.	1	Haze	
	Noon	W.	1	C. K.	3		Noon	SE.	1	Haze			Noon	S. SE.	1	Haze	
	3	S. SE.	2	C. K.	2		3	S.	1	C.	3		3	S. SW.	1	Haze	
	6	S.	1	Clear	0		6	SW.	1	Clear	0		6	S.	1	Haze	
	9	SE.	1	Clear	0		9	S.	1	Clear	0		9	S.	1	Haze	
April 28	0	S.	1	Clear	0	April 29	0	S.	1	Clear	0	April 30	0	NW.	1	C. K.	5
	3	S.	1	Clear	0		3	S.	1	N.	8		3	NW.	2	C. K.	5
	6	S.	1	Haze			6	S.	1	C. K.	7		6	NW.	1	C. K.	8
	9	S.	1	Haze			9	S. SW.	2	C. K.	10		9	NW.	2	S.	1
	Noon	S.	1	Haze			Noon	S. SW.	3	C. K.	10		Noon	NW.	2	C. S.	2
	3	S.	2	C. K.	4		3	S.	3	C. K.	10		3	W.	1	C. K.	7
	6	S. SW.	1	C. K.	5		6	NW.	2	N.	10		6	N. NW.	1	N.	10
	9	SE.	2	C.	1		9	NW.	1	C. K.	8		9	S. SW.	1	K.	10
May 1	0	N.	1	K.	10	May 2	0	NW.	2	Clear	0	May 3	0	NW.	1	C.	3
	3	NE.	1	N.	10		3	NW.	1	Clear	0		3	W.	1	Clear	0
	6	NE.	1	N.	10		6	NW.	2	C.	7		6	NW.	2	C.	1
	9	NW.	3	N.	10		9	N.	2	C.	8		9	N. NW.	2	C.	3
	Noon	NW.	3	C. K.	6		Noon	N.	2	C.	8		Noon	NW.	3	C. K.	3
	3	NW.	4	C. K.	3		3	N. NE.	1	C. K.	7		3	NW.	2	C. K.	3
	6	NW.	3	C. S.	2		6	N. NE.	1	C. K.	8		6	NW.	2	C. K.	6
	9	W. NW.	2	Clear	0		9	N. NW.	1	C.	3		9	NW.	1	Clear	0
May 4	0	W. NW.	1	Clear	0	May 5	0	SE.	1	C.	3	May 6	0	SW.	1	C. K.	10
	3	NW.	1	Clear	0		3	E.	1	N.	10		3	SW.	1	C. K.	10
	6	NW.	2	Clear	0		6	SW.	1	K.	10		6	NE.	1	N.	10
	9	SE.	1	C.	1		9	SE.	1	K.	10		9	S.	1	C. K.	7
	Noon	SE.	1	C.	4		Noon	S. SE.	1	C. K.	10		Noon	S.	2	C.	4
	3	SE.	1	C. K.	7		3	SE.	1	C. K.	2		3	S.	2	C. K.	6
	6	S. SE.	1	C. K.	10		6	S.	1	C. K.	6		6	S. SW.	1	C. K.	10
	9	SE.	1	C. K.	10		9	S.	1	K.	10		9	W.	2	C. K.	3
May 7	0	NW.	3	C. K.	6	May 8	0	S.	1	Clear	0	May 9	0	S.	1	K.	10
	3	NW.	3	C. K.	8		3	SE.	2	C. K.	3		3	S.	1	C. K.	10
	6	NW.	1	K.	9		6	SE.	1	N.	10		6	S.	1	N.	10
	9	NW.	2	C. K.	10		9	S. SE.	1	C. K.	10		9	NW.	2	C. K.	10
	Noon	NW.	2	C. K.	6		Noon	SE.	1	C. K.	4		Noon	NW.	3	N.	10
	3	SW.	1	C. K.	2		3	S.	3	C. K.	6		3	N. NW.	2	K.	10
	6	S.	1	Clear	0		6	SW.	2	N.	10		6	N.	2	K.	10
	9	S.	1	Clear	0		9	SW.	1	C. K.	10		9	N.	1	K.	10

REMARKS.

April 29. A light shower at 2h. 45m. a. m.; also at 3h. 40m. p. m. Raining heavily at 5h. p. m. Amount, 0.544 inch
30. Raining moderately at 5h. 50m. p. m. Amount, 0.236 inch.
May 4. Light showers after 5h. p. m.
5. A light shower at 3h. a. m.
6. Intense lightning with thunder and heavy rain at 2h. 50m. a. m. Amount, 0. 680 inch.
8. A moderate shower at 6h. a. m., and a heavy shower, accompanied by thunder and lightning, at 6h. p. m. Amount, 0. 250 inch.
9. A smart shower at 12h. Amount, 0. 180 inch.

Day.	Hour	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865. May 10	0	NE.	1	N.	10
	3	NE.	1	K.	10
	6	NE.	1	K.	10
	9	SE.	1	K.	10
	Noon	SE.	1	K.	10
	3	S.	1	K.	10
	6	SE.	2	K.	10
	9	SE.	2	K.	10
1865. May 11	0	SW	1	K.	10
	3	W. SW.	1	K.	10
	6	S.	1	C. K.	9
	9	S. SE.	2	C. K.	8
	Noon	S. SE.	1	C. K.	9
	3	S. SE.	2	C. K.	10
	6	W.	2	N.	10
	9	NW.	2	N.	10
1865. May 12	0	NW.	6	N.	10
	3	NW.	4	N.	10
	6	NW.	2	C. K.	8
	9	NW.	3	C. S.	3
	Noon	N. NW.	2	S.	1
	3	N.	1	C. S.	2
	6	N. NW.	1	C. K.	6
	9	N.	1	C. S.	2
May 13	0	NW.	2	C. K.	10
	3	NW.	1	C. S.	10
	6	NW.	1	Fog	
	9	S. SE.	1	Haze	
	Noon	S. SE.	1	C. K.	2
	3	S. SE.	1	C. K.	3
	6	SW.	1	Clear	0
	9	SW.	1	Clear	0
May 14	0	S.	1	Clear	0
	3	S. SW.	1	Clear	0
	6	S. SE.	1	Haze	
	9	SE.	1	S.	3
	Noon	SE.	1	C.	6
	3	S. SE.	1	C. K.	10
	6	S. SE.	1	C. K.	10
	9	SW.	1	C. K.	3
May 15	0	S. SE.	1	C. K.	3
	3	W. NW.	1	S.	1
	6	SW.	1	Haze	
	9	S.	1	Haze	
	Noon	S. SE.	1	C.	1
	3	S. SE.	1	Haze	
	6	S.	1	C. S.	4
	9	S.	1	Clear	0
May 16	0	S. SE.	1	C. S.	2
	3	S. SE.	1	C. S.	2
	6	E.	1	C. K.	3
	9	S.	1	Clear	0
	Noon	SE.	1	C.	1
	3	S.	1	Clear	0
	6	S. SE.	1	Clear	0
	9	S.	1	Clear	0
May 17	0	SE.	1	Clear	0
	3	SE.	1	Clear	0
	6	S.	1	Clear	0
	9	S.	1	Haze	
	Noon	S. SE.	1	C. K.	3
	3	SE.	1	C. K.	6
	6	S.	1	C.	1
	9	S.	1	C.	1
May 18	0	SW.	1	C. K.	3
	3	SW.	1	C. K.	2
	6	SW.	1	C. K.	6
	9	NW.	1	C. K.	5
	Noon	S.	1	C. K.	8
	3				
	6	N. NE.	3	C. K.	10
	9	NE.	3	N.	10
May 19	0	E.	1	N.	10
	3	NE.	1	K.	10
	6	NE.	1	Mist	10
	9	N. NE.	1	Fog	10
	Noon	NE.	1	K.	10
	3	NE.	1	N.	10
	6	NE.	2	C. K.	8
	9	SE.	1	N.	10
May 20	0	E.	1	K.	10
	3	SE.	1	K.	10
	6	S. SE.	2	C. K.	10
	9	S.	1	K.	10
	Noon	SW.	1	N.	10
	3	S.	1	N.	10
	6	S. SE.	3	C. K.	10
	9	SW.	2	C. K.	7
May 21	0	SE.	1	K.	10
	3	SE.	1	K.	10
	6	SE.	1	K.	10
	9	S. SW.	2	N.	10
	Noon	S.	3	K.	10
	3	S.	2	C. K.	10
	6	S.	1	K.	10
	9	S.	1	K.	10
May 22	0	S.	1	C. K.	7
	3	S.	1	K.	10
	6	SW.	1	K.	10
	9	SW.	1	C. K.	10
	Noon	W.	1	C. K.	6
	3	W.	1	C.	3
	6	W.	1	C. K.	10
	9	NW.	3	K.	9
May 23	0	NW.	1	K.	10
	3	NW.	1	C.	4
	6	NW.	2	Clear	0
	9	NW.	2	C. K.	2
	Noon	NW.	3	C. K.	3
	3	NW.	2	C. K.	2
	6	N. NW.	2	Clear	0
	9	N. NW.	2	Clear	0
May 24	0	N. NW.	2	Clear	0
	3	NW.	1	Clear	0
	6	NW.	3	C.	1
	9	N.	2	Clear	0
	Noon	NW.	2	Clear	0
	3	W.	1	Clear	0
	6	SW.	1	C.	1
	9	SW.	1	S.	1

REMARKS.

May 11. Thunder at 5h. 15m. p. m. and continued till midnight. Heavy rain at 10h. p. m. Amount, 1.030 inch.
12. Rain during the morning, 0.340 inch.
13. A lunar halo at 0h. and 3h. a. m.
14. A lunar halo at midnight.
17. Lightning during the evening.
18. Thunder at 1h. 30m. p. m. Commenced raining at 1h. 45m. p. m. Amount, 0.595 inch.
20. Raining lightly at 0h. 20m. a. m. Shower of rain at 11h. 45m. a. m., and also at 2h. 45m. p. m. Distant thunder at 7h. 30m. p. m. Much lightning during the evening. Amount of rain, 0.220 inch.
21. Frequent showers and much lightning and thunder during the day. Amount of rain, 0.740 inch.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865.						1865.						1865.					
May 25	0	SW.	1	K.	9	May 26	0	NE.	1	C. K.	10	May 27	0	NE.	2	N.	10
	3	W.	1	K.	9		3	NE.	1	K.	10		3	N. NE.	2	N.	10
	6	NE.	1	K.	10		6	NE.	1	N.	10		6	N.	2	N.	10
	9	SE.	1	K.	10		9	NE.	1	N.	10		9	N.	2	N.	10
	Noon	NW.	1	C. K.	7		Noon	NE.	1	N.	10		Noon	N.	2	N.	10
	3	E.	2	C. K.	8		3						3	N.	2	C. K.	10
	6	E.	1	C. K.	9		6	NE.	1	N.	10		6	NW.	1	K.	10
	9	E.	1	C.	6		9	NE.	1	N.	10		9	N.	1	C. K.	8
May 28	0	NW.	1	C. K.	8	May 29	0	NE.	1	C. K.	7	May 30	0	W.	1	C. K.	6
	3	NW.	1	K.	3		3	NW.	1	C.	1		3	W.	1	C. K.	3
	6	NW.	1	C. K.	8		6	NW.	1	Clear	0		6	W.	1	Clear	0
	9	N. NE.	1	C.	3		9	NW.	2	C. K.	3		9	W.	1	Clear	0
	Noon	N.	2	C. K.	5		Noon	SW.	2	C. K.	4		Noon	NW.	1	C.	1
	3	NE.	2	C.	4		3	NW.	2	C. K.	5		3	NW.	1	Clear	0
	6	NE.	1	C. K.	6		6	NW.	1	C. K.	7		6	W.	1	Clear	0
	9	NE.	1	K.	10		9	NW.	1	S.	1		9	SW.	1	Clear	0
May 31	0	SW.	1	Clear	0												
	3	W.	1	Clear	0												
	6	W.	1	Clear	0												
	9	W.	1	Clear	0												
	Noon	SW.	1	Haze													
	3	SW.	1	Haze													
	6	S.	1	K.	10												
	9	S.	1	Haze													
June 1	0	S. SW.	1	Haze		June 2	0	W. NW.	1	Haze		June 3	0	W.	1	Clear	0
	3	SW.	1	Clear	0		3	NW.	1	Haze			3	W. NW.	1	C.	6
	6	W.	1	Haze			6	W.	1	Haze			6	N. NE.	1	Fog	
	9	SE.	1	Haze			9	NW.	2	Haze			9	NE.	1	Haze	
	Noon	W.	1	Haze			Noon	NW.	2	Haze			Noon	E.	1	Haze	
	3	NW.	1	Haze			3	W.	2	Haze			3	NE.	1	C.	1
	6	W. NW.	1	Haze			6	Calm	0	Haze			6	E.	1	Clear	0
	9	W.	1	Haze			9	NW.	1	C.	1		9	N.	1	C. K.	3
June 4	0	W.	1	Haze		June 5	0	S. SW.	1	Haze		June 6	0	NE.	1	K.	10
	3	W.	1	Haze			3	SW.	1	Haze			3	NE.	2	K.	10
	6	NE.	1	C.	4		6	SW.	1	Fog			6	NE.	1	K.	10
	9	S. SE.	1	C. K.	7		9	W.	1	C.	3		9	N. NE.	2	K.	10
	Noon	S.	1	C. K.	4		Noon	N.	1	C.	2		Noon	NE.	2	C. K.	10
	3	S.	1	C. K.	4		3	W. NW.	1	C.	3		3	NE.	1	K.	10
	6	SW.	1	C.	3		6	W. NW.	1	Haze			6	NE.	1	K.	10
	9	SW.	1	Clear	0		9	SE.	1	C. K.	7		9	NE.	1	K.	10

REMARKS.

May 25. Light showers at 2h. 12m. and at 5h. 30m. a. m.
26. Commenced raining at 4h. 10m. a. m., and continued until 12h. on the 27th. Amount, 0.910 inch.
28. A light shower of rain at 8h. p. m. Amount, 0.060 inch.

June 2. Lightning during the evening.
3. Lightning at intervals during the evening.
5. A lunar halo from 8h. to 10h. p. m. Lightning in the N. and E. at 8h. 30m., and a light shower at 10h. 40m. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.		
1865.					
June 7	0	NE.	1	K.	10
	3	NE.	1	K.	10
	6	NE.	1	Mist	10
	9	S.	1	K.	10
	Noon	SW.	1	C. K.	9
	3	SW.	2	C. K.	3
	6	SW.	1	C. K.	6
	9	SW.	1	C. K.	6
June 10	0	S.	2	C. K.	10
	3	S.	2	C. K.	6
	6	S.	2	C. K.	8
	9	SW.	2	C. K.	9
	Noon	SW.	2	C. K.	9
	3	W.	2	N.	10
	6	SW.	1	C. K.	4
	9	SW.	1	C.	7
June 13	0	S.	1	C. K.	9
	3	S.	1	K.	10
	6	W.	1	K.	10
	9	S.	1	N.	10
	Noon	S.	1	C. K.	10
	3	S.	1	K.	10
	6	E.	1	N.	10
	9	SW.	1	C. K.	3
June 16	0	NE.	1	K.	10
	3	NE.	1	K.	10
	6	E.	1	K.	10
	9	SE.	1	K.	10
	Noon	SE.	1	K.	10
	3	SW.	1	C. K.	8
	6	SE.	1	C. K.	8
	9	SE.	1	C.	3
June 19	0	S.	1	Clear	0
	3	S. SE.	1	C.	2
	6	SE.	1	C.	8
	9	S.	1	C. S.	4
	Noon	S.	2	C. K.	4
	3	S.	1	C. K.	4
	6	NE.	1	N.	10
	9	NE.	1	K.	10

Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.		
1865.					
June 8	0	S. SW.	1	C. K.	10
	3	S.	1	C. K.	8
	6	S.	1	C.	6
	9	S. SW.	1	C. K.	7
	Noon	SE.	2	C. K.	6
	3	SW.	1	C. K.	5
	6	W.	1	C. K.	8
	9	SW.	1	C.	4
June 11	0	NW.	1	C. K.	10
	3	NW.	1	C. K.	8
	6	N.	1	C. K.	9
	9	NE.	1	K.	10
	Noon	N.	1	C. K.	6
	3	E.	1	C. K.	4
	6	E.	1	C. K.	5
	9	E.	1	Clear	0
June 14	0	SW.	1	C. K.	6
	3	N.	1	K.	10
	6	N.	1	C. K.	10
	9	NE.	1	C. K.	7
	Noon	NE.	3	C. K.	8
	3	E.	2	K.	10
	6	NE.	1	N.	10
	9	NE.	1	K.	10
June 17	0	SE.	1		
	3	SE.	1	K.	10
	6	S. SE.	1	K.	10
	9	W.	1	K.	10
	Noon	SE.	1	C. K.	6
	3	SE.	2	C. K.	4
	6	S.	2	C. K.	4
	9	S.	1	C. K.	9
June 20	0	W.	1	K.	10
	3	W.	1	K.	10
	6	NW.	1	K.	10
	9	SE.	1	C. K.	9
	Noon	E.	1	N.	10
	3	NW.	2	N.	10
	6	W.	1	N.	10
	9	NW.	1	C. K.	6

Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.		
1865.					
June 9	0	W.	1	C.	2
	3	SW.	1	C. K.	5
	6	S.	1	C. K.	8
	9	S.	1	C. S.	3
	Noon	S.	2	C. K.	4
	3	S.	2	C. K.	4
	6	SW.	2	C. K.	5
	9	S. SW.	1	C. K.	8
June 12	0	SE.	1	C.	6
	3	E.	1	C. K.	8
	6	NE.	1	K.	10
	9	S. SW.	1	K.	10
	Noon	S.	2	C. K.	4
	3	S. SE.	2	C. K.	6
	6	S.	1	C.	4
	9	S.	1	C.	3
June 15	0	NE.	1	N.	10
	3	NE.	1	Mist	10
	6	NE.	2	K.	10
	9	NE.	2	K.	10
	Noon	E.	2	K.	10
	3	E.	2	K.	10
	6	E.	2	K.	10
	9	E.	2	K.	10
June 18	0	SW.	1	C. K.	5
	3	S.	1	C.	4
	6	S.	1	K.	10
	9	SE.	1	C. K.	9
	Noon	S. SE.	2	C. K.	7
	3	S. SE.	2	C. K.	6
	6	S.	1	C.	4
	9	S.	1	S.	1
June 21	0	W.	1	K.	10
	3	SW.	1	K.	10
	6	W.	1	C. K.	9
	9	W.	1	C. K.	4
	Noon	S.	1	C. K.	10
	3	W.	1	C. K. S.	7
	6	S.	1	C. K.	10
	9	SW.	1	C. S.	3

REMARKS.

June 8. Thunder at 2h. p. m. A few drops of rain at 2h. 35m. and a light shower of rain at 4h. 40m. p. m.
9. Lightning in the NE. during the evening.
10. Rain accompanied by lightning and thunder at 2h. p. m. Amount, 0.120 inch.
13. A light shower at 8h. 30m. a. m. Commenced raining heavily at 5h. 50m. and continued till 7h. 30m. p. m. Amount, 1.600 inch.
14. Commenced raining at 3h. 20m. p. m. Amount, 0.130.
15. A light mist at 10h. 20m. p. m.
16. Shower at 8h. 25m. p. m. Amount, 0.070 inch.
17. Lightning and thunder from 7h. to 10h. p. m.
18. Lightning from 8h. p. m. to midnight
19. A heavy shower at 5h. 10m. p. m. Amount, 1.370 inch.
20. A moderate shower of rain with lightning and thunder at 11h. 50m. a. m. and frequent showers till 7h. p. m. Amount, 0.428 inch.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865. June 22	0	W.	1	C.	4
	3	W.	1	C.	3
	6	SW.	1	C. S.	3
	9	SE.	1	C. K.	3
	Noon	E.	1	C. K.	4
	3	SW.	1	C. K.	9
	6	S.	1	C. S.	4
	9	W.	1	S.	1
June 25	0	N.	1	Clear	0
	3	N.	1	Clear	0
	6	S.	1	C. K.	9
	9	S.	1	C. K.	6
	Noon	S.	3	C. K.	6
	3	S.	3	C. K.	9
	6	SE.	3	C. K.	9
	9	S. SE.	2	C. K. S.	8
June 28	0	N.	1	C.	4
	3	NW.	1	Clear	0
	6	NW.	1	Clear	0
	9	S. SE.	1	C. K.	2
	Noon	SW.	1	C. K.	3
	3	SW.	1	C. K.	7
	6	SW.	1	C.	2
	9	S.	1	S.	1
July 1	0	N.	1	K.	10
	3	NW.	1	K.	10
	6	SW.	1	C. K. S.	9
	9	NW.	1	C. S.	5
	Noon	W.	1	C. K.	8
	3	S.	1	C. K.	9
	6	E. SE.	1	C. K.	9
	9	N.	2	K.	10
July 4	0	W.	1	Clear	0
	3	W.	1	Clear	0
	6	W.	1	Clear	0
	9	NW.	1	C.	6
	Noon	SW.	1	C. K.	10
	3	W.	1	C. K.	9
	6	S.	1	K.	10
	9	SW.	1	C. K.	6

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865. June 23	0	W.	1	Clear	0
	3	W.	1	C.	2
	6	W.	1	C. K.	7
	9	NE.	1	C. K.	4
	Noon	S.	1	C. K.	2
	3	SE.	1	C. K.	3
	6	SE.	1	C. K.	2
	9	W.	1	C. S.	1
June 26	0	S.	2	K.	10
	3	S.	2	N.	10
	6	S.	2	N.	10
	9	SE.	2	C. K.	10
	Noon	S.	2	N.	10
	3	S.	1	C. K.	9
	6	N.	1	C. K.	10
	9	NW.	1	S.	1
June 29	0	NW.	1	S.	1
	3	S.	1	C. K.	8
	6	S.	1	C. K. S.	9
	9	S.	1	Clear	0
	Noon	S.	2	C.	1
	3	S.	3	C.	2
	6	S.	1	C. K.	3
	9	SW.	1	C. K.	7
July 2	0	N.	1	C. S.	2
	3	S.	1	N.	10
	6	SW.	1	C. K.	8
	9	NW.	2	C. K.	3
	Noon	NW.	3	C. K.	2
	3	NW.	2	C. K.	2
	6	W. NW.	2	Clear	0
	9	NW.	1	Clear	0
July 5	0	W.	1	C.	4
	3	SW.	1	C. K.	10
	6	NW.	1	C. K.	10
	9	W.	1	C. K.	8
	Noon	W.	1	K.	10
	3	NW.	1	C. K.	6
	6	NW.	1	C. K.	10
	9	NW.	1	C. K.	8

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865. June 24	0	N.	1	Clear	0
	3	NW.	1	Clear	0
	6	N.	1	C.	3
	9	SE.	1	C. K.	8
	Noon	SE.	1	C. K.	4
	3	S.	1	C. K.	3
	6	S.	1	C.	1
	9	N.	1	Clear	0
June 27	0	NW.	1	C. K.	8
	3	NW.	1	C. K. S.	3
	6	NW.	1	Clear	0
	9	W.	1	C.	1
	Noon	W. NW.	1	C.	3
	3				
	6	SW.	1	C. K.	2
	9	NW.	1	C. K.	8
June 30	0	SE.	1	S.	1
	3	S.	1	C. K.	6
	6	S.	1	C. K.	8
	9	S. SE.	1	C.	6
	Noon	SE.	1	C. K.	7
	3	S.	2	C. K.	5
	6	NW.	4	N.	10
	9	NW.	2	N.	10
July 3	0	NW.	1	Clear	0
	3	NW.	1	Clear	0
	6	NW.	1	Clear	0
	9	W. NW.	1	Clear	0
	Noon	W.	1	C.	1
	3	W. SW.	1	S.	1
	6	SW.	1	C. K.	4
	9	SW.	1	C. K.	3
July 6	0	NW.	1	C. K.	6
	3	NW.	1	S.	2
	6	NE.	1	K.	10
	9	N. NE.	1	N.	10
	Noon	S. SE.	1	C. K.	8
	3	S. SW.	1	C. K.	6
	6	S.	1	Clear	0
	9	S.	1	Clear	0

REMARKS

June 22. A light shower at 1h. 25m. p. m. Thunder at 2h. 45m. p. m.
26. Rain during the morning and a heavy shower at 3h. 50m. p. m. Amount, 0.640 inch.
29. Several meteors were seen about midnight.
30. Thunder at 3h. 40m. p. m. Commenced raining at 5h. 40m. p. m. with lightning and thunder. Amount, 0.500 inch.

July 1. At 7h. 15m. p. m. a heavy shower, with lightning and heavy thunder. Wind S. Amount of rain, 0.500 inch.
6. Raining lightly at 8h. 30m. a. m.

Day	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865.						1865.						1865.					
July 7	0	S.	1	S.	1	July 8	0	NW.	1	C. K.	8	July 9	0	NW.	4	N.	10
	3	SW.	1	C. S.	3		3	NW.	1	C.	1		3	SW.	2	C. K.	6
	6	SW.	1	Haze			6	W.	1	C.	2		6	W.	1	C. K.	8
	9	W.	2	Clear	0		9	W. NW.	2	C. K.	8		9	NW.	2	C. K.	10
	Noon	W. SW.	3	C.	1		Noon	NW.	1	C. K.	3		Noon	N. NW.	3	K.	10
	3	W. SW.	2	C. K.	2		3	SW.	1	N.	10		3	N.	1	N.	10
	6	W. SW.	2	C. K.	1		6	SW.	1	C. K.	6		6	N.	1	C. K.	7
	9	NW.	1	C. K.	7		9	SW.	1	C. K.	7		9	N.	1	C. K. S.	6
July 10	0	NW.	1	C. K.	6	July 11	0	N.	1	N.	10	July 12	0	N. NE.	1	C. K.	10
	3	NE.	1	C. K.	10		3	NW.	1	K.	10		3	NE.	2	K.	10
	6	N.	2	K.	10		6	N.	1	K.	10		6	NE.	1	N.	10
	9	N. NE.	1	N.	10		9	W.	1	K.	10		9	N. NE.	1	K.	10
	Noon	N.	1	K.	10		Noon	E.	1	C. K.	6		Noon	N.	1	N.	10
	3	NE.	1	N.	10		3	E.	1	C. K.	8		3	NE.	1	K.	10
	6	NE.	1	K.	10		6	S.	1	C. K.	7		6	NE.	1	C. K.	9
	9	NE.	1	N.	10		9	N.	2	C. K.	8		9	SW.	1	S.	2
July 13	0	W.	1	K.	10	July 14	0	NW.	1	Clear	0	July 15	0	NW.	1	Clear	0
	3	W.	1	K.	10		3						3	N.	1	C.	1
	6						6	NW.	1	C.	1		6	NW.	1	K.	10
	9	W.	1	C.	2		9	N.	1	C. S.	1		9	SW.	1	K.	10
	Noon	NW.	2	C.	4		Noon	SW.	1	K.	2		Noon	NW.	1	K.	10
	3	NW.	3	C.	1		3	SW.	1	C. K.	2		3	SE.	2	C. K.	10
	6	NW.	2	C.	1		6	S.	1	C.	2		6	E.	1	K.	10
	9	NW.	2	C. S.	2		9	SW.	1	Clear	0		9	E.	1	K.	10
July 16	0	SE.	1	K.	10	July 17	0	S.	1	K.	10	July 18	0	NW.	2	Clear	0
	3	SE.	1	C. K.	8		3	SW.	1	N.	10		3	NW.	3	Clear	0
	6	SE.	1	K.	10		6	NW.	2	N.	10		6	NW.	2	Clear	0
	9	S. SE.	2	C. K.	10		9	NW.	4	K.	10		9	NW.	2	Clear	0
	Noon	S.	2	C. K.	9		Noon	NW.	3	C. K.	10		Noon	SW.	1	C. K.	3
	3	S. SE.	2	C. K.	10		3	NW.	2	C.	4		3	SW.	1	C. K.	3
	6	S. SE.	2	C. K.	9		6	NW.	2	C. K.	2		6	SW.	1	C. K.	6
	9	S.	1	K.	10		9	NW.	1	C. S.	2		9	SW.	1	C.	3
July 19	0	SW.	1	C. S.	1	July 20	0	NW.	2	C. K.	3	July 21	0	NW.	1	Clear	0
	3	SW.	1	C. K.	8		3	W.	1	C.	4		3	W.	1	C. K.	2
	6	SE.	1	C. K.	7		6	W.	1	C. K.	4		6	SW.	1	C. K.	3
	9	S.	1	C. K.	4		9	NW.	3	C. K.	2		9	NW.	1	C.	1
	Noon	S.	4	C. K.	8		Noon	W.	2	C. K.	2		Noon	W. NW.	1	C.	1
	3	S.	4	K.	10		3	W. NW.	2	C. K.	5		3	W.	1	C.	1
	6	S.	1	C. K.	10		6	N. NW.	1	C. S.	3		6	S. SE.	1	C. K.	3
	9	S. SE.	2	K.	7		9	N.	1	S.	1		9	S.	1	C. K.	3

REMARKS.

July 8. Thunder at 0h. 30m. p. m. A light shower at 1h. 25m. p. m. Lightning in the south during the evening.
9. A light shower at 1h. 30m. p. m.
10. Raining at 8h. 30m. a. m. Amount, 0. 176 inch.
11. A heavy shower of rain with lightning and thunder at 7h. 15m. p. m. Amount, 1. 150 inch.
12. Lightning during the morning, and a light shower at 2h. 30m. a. m. Amount, 0. 200 inch. Lightning in the south during the evening.
16. Light showers of rain at 8h. a. m. and at 4h. 10m. p. m. Amount, 0. 060 inch.
19. Light shower at 7h. 40m. p. m.
20. Several meteors during the early part of the night; course, eastward.
21. Vivid lightning and distant thunder in the west at 8h. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1865.						1865.						1865.					
July 22	0	S. SE.	1	C. K.	10	July 23	0	N.	1	K.	10	July 24	0	W.	1	C. K.	3
	3	S.	1	K.	10		3	N.	1	K.	10		3	W.	1	C. K.	10
	6	W.	1	C. S.	5		6	N. NE.	1	C. K.	8		6	W.	1	C. K.	6
	9	NW.	2	C. K.	5		9	N.	1	C. K.	9		9	SE.	1	C. K.	7
	Noon	NW.	1	C. K.	5		Noon	NW.	1	C. K.	8		Noon	S. SE.	1	C. K.	7
	3	NW.	2	C. K.	4		3	NW.	1	C. K.	9		3	S. SW.	1	C. K.	9
	6	NW.	3	C. K.	4		6	N.	1	C. K.	3		6	NE.	1	C. K.	9
	9	N.	2	C.	2		9	N. NW.	1	Clear	0		9	E.	1	C. K.	6
July 25	0	NE.	1	K.	10	July 26	0	SW.	3	C. S.	1	July 27	0	SW.	1	C.	2
	3	N.	1	Clear	0		3	W.	1	S.	1		3	SW.	1	C. K.	6
	6	NE.	1	C. K.	8		6	W. SW.	1	S.	1		6	SW.	1	C. K.	9
	9	S.	1	C.	5		9	NW.	3	C. K.	2		9	W.	1	C. K.	9
	Noon	S.	1	C. K.	8		Noon	NW.	2	C. K.	6		Noon	NW.	1	C. K.	10
	3	S. SW.	2	C. K.	7		3	W.	2	C. K.	8		3	SW.	1	C.	5
	6	SW.	2	C. K.	10		6	W.	1	C.	3		6	SE.	1	C. K.	10
	9	SW.	2	C. S.	1		9	NW.	1	C. K.	4		9	S.	2	N.	10
July 28	0	SW.	1	C. K.	5	July 29	0	SE.	1	Clear	0	July 30	0	N.	1	K.	10
	3	W.	1	C. K.	3		3	S.	1	Clear	0		3	NW.	1	N.	10
	6	W.	1	C.	2		6	SW.	1	C. K. S.	4		6	NW.	1	K.	10
	9	W. NW.	1	C. K.	1		9	W.	1	C.	1		9	N. NE.	1	C. K.	7
	Noon	S. SE.	1	C. K.	4		Noon	W.	1	C.	1		Noon	SE.	1	C. K.	10
	3	SW.	1	C. K.	6		3	NW.	1	C. K.	7		3	E.	1	C. K.	10
	6	S.	1	C. K.	6		6	N.	1	N.	10		6	E.	1	C. K. S.	10
	9	S.	1	C.	3		9	N. NW.	1	C. K.	10		9	N.	1	C. S.	6
July 31	0	NW.	1	Clear	0												
	3	NW.	1	C.	2												
	6	N.	1	C. K.	10												
	9	NE.	1	C. K.	10												
	Noon	E.	1	C. K.	10												
	3	E.	1	C.	6												
	6	E. SE.	1	C. K.	9												
	9	NE.	1	K.	10												
Aug. 1	0	NE.	2	K.	10	Aug. 2	0	E.	1	K.	10	Aug. 3	0	S.	1	C. K.	8
	3	NE.	1	K.	1		3	W.	1	C. K.	8		3	SW.	1	K.	10
	6	NE.	1	N.	10		6	SE.	1	K.	10		6	SW.	1	K.	10
	9	NE.	2	K.	10		9	SE.	1	K.	10		9	S.	1	K.	10
	Noon	E.	2	K.	10		Noon	S.	1	C. K.	7		Noon	S. SE.	1	C. K.	7
	3	E.	1	C. K.	7		3	S.	1	N.	10		3	SW.	1	C. K.	8
	6	E.	2	C. K.	8		6	SE.	1	C. K.	10		6	SW.	1	C. K.	10
	9	E.	1	N.	10		9	S. SE.	1	C. K.	7		9	NW.	1	C. K.	8

REMARKS.

July 24. A light shower of rain at 11h. p. m. Lightning during the night.
25. Lightning in the north from 10h. p. m. to midnight.
27. A light shower at 9h. 40m. a. m., and a heavy shower of rain at 9h. p. m., with lightning and thunder. Amount of rain, 0.640 inch.
30. Raining at 2h. 30m. a. m. Amount, 0.120 inch.

August 1. Frequent showers during the day. Amount, 0.120 inch.
2. Thunder at 11h. 40m. a. m. Rain at 1h. 10m. p. m. Lightning in the N. during the evening. Amount of rain, 0.110 inch.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865.					
Aug. 4	0	W.	1	C.	4
	3	NW.	1	C.	6
	6	NW.	1	C. K.	7
	9	NW.	1	C. K.	8
	Noon	S.	1	C. K.	7
	3				
	6	S. SW.	1	C. K.	8
	9	S. SW.	1	C. K.	7
Aug. 5	0	SW.	1	C. K.	10
	3	SW.	1	C. K.	10
	6	NW.	1	C. K.	9
	9	W. NW.	1	C. K.	9
	Noon	W. NW.	1	C. K.	8
	3	SW.	1	C. K.	7
	6	SW.	1	C. K.	8
	9	W.	1	K.	10
Aug. 6	0	W.	1	K.	10
	3	S.	1	C. K.	8
	6	S.	1	C. K.	7
	9	S.	1	C. K.	6
	Noon	S.	2	C. K.	7
	3	S.	1	C. K.	8
	6	S. SW.	1	N.	10
	9	SW.	1	C. K.	8
Aug. 7	0	SW.	1	C. K.	10
	3	SW.	1	C. K.	10
	6	S.	1	C. K.	8
	9	SW.	1	C. K.	10
	Noon	NW.	1	N.	9
	3				
	6	N. NW	2	C.	2
	9	NW.	1	Clear	0
Aug. 8	0	NW.	2	Clear	0
	3	NW.	1	Clear	0
	6	NW.	2	C. S.	1
	9	N.	1	C.	3
	Noon	N.	1	C. K.	4
	3	SW.	1	C. K.	7
	6	W. NW.	1	C.	1
	9	W. NW.	1	C. S.	1
Aug. 9	0	W.	1	C. K.	3
	3	SW.	1		
	6	NW.	1	C. K.	7
	9	NW.	2	C.	1
	Noon	NW.	1	C. K.	3
	3	W.	1	C. K.	7
	6	NE.	1	C.	2
	9	N.	1	C. S.	2
Aug. 10	0	NW.	1	Clear	0
	3	NW.	1	C. K.	6
	6	NW.	1	K.	10
	9	S.	1	C. K.	10
	Noon	SW.	1	N.	10
	3	S.	1	K.	10
	6	SW.	1	C. K.	9
	9	W.	1	C. K. S.	6
Aug. 11	0	W.	1	Clear	0
	3	NW.	1	C. K.	2
	6	N. NW.	1	C.	2
	9	NW.	2	Clear	0
	Noon	NW.	3	C. K.	3
	3	NW.	3	C. K.	2
	6	NW.	2	C.	1
	9	NW.	1	Clear	0
Aug. 12	0	N.	1	C. K.	8
	3	NW.	1	C. K.	10
	6	NW.	1	C.	2
	9	N. NW.	2	C. K.	6
	Noon	N. NW.	1	C. K.	8
	3	N.	1	C. K.	10
	6	N.	1	C. K.	9
	9	NW.	1	Clear	0
Aug. 13	0	NW.	1	Clear	0
	3	NW.	1	C. K.	2
	6	NW.	1	C. K.	2
	9	N.	1	C.	2
	Noon	NW.	1	C. K.	5
	3	E. SE.	1	C. K.	7
	6	NE.	1	Clear	0
	9	N.	1	S.	1
Aug. 14	0	N.	1	C.	6
	3	N.	1	C. K.	8
	6	NW.	1	C. K.	10
	9	E.	1.	C. K.	10
	Noon	E.	1	C. K.	10
	3	SE.	1	K.	10
	6	SE.	1	C. K.	3
	9	SW.	1	C. S.	2
Aug. 15	0	S.	1	C. K.	9
	3	SW.	1	N.	10
	6	NE.	1	C. K.	10
	9	N.	1	C. K.	9
	Noon	NE.	1	C. K.	8
	3	SE.	1	C. K.	6
	6	S. SE.	1	C.	4
	9	S.	1	Clear	0
Aug. 16	0	W.	1	Clear	0
	3	Calm	0	Fog	
	6	NW.	1	Fog	
	9	NE.	1	C. K.	10
	Noon	E.	1	C.	4
	3				
	6	E. NE.	1	C. K.	8
	9	N.	1	C. S.	2
Aug. 17	0	N.	1	C. K.	4
	3	N.	1	K.	10
	6	NW.	1	K.	10
	9	NE.	1	C. K.	10
	Noon	NE.	1	C. K.	10
	3				
	6	NE.	1	C. K.	9
	9	NE.	1	C. K.	8
Aug. 18	0	NE.	1	K.	10
	3	N.	1	K.	10
	6	N. NE.	2	K.	10
	9	NE.	2	C. K.	9
	Noon	NE.	1	K.	10
	3				
	6	N.	1	N.	10
	9	N.	1	K.	10

REMARKS.

August 4. Thunder at 7h. p. m. Lightning in the N. and E. during the latter part of the evening.
5. Lightning and thunder during the evening.
6. Rain with lightning and thunder at 1h. a. m. A heavy shower from 4h. 30m. to 7h. p. m. Amount of rain, 0.425 inch.
7. Frequent light showers during the day.
10. Raining lightly at noon and at 3h. 45m. p. m.
15. A light shower at 3h. a. m.
18. A light shower at 6h. p. m.

Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.	Day.	Hour.	WIND. Direction.	WIND. Force.	Weather.	Portion cloudy.
1865.						1865.						1865.					
Aug. 19	0	N.	1	K.	10	Aug. 20	0	S.	1	Clear	0	Aug. 21	0	S.	1	C. K.	2
	3	N.	1	C. K.	8		3	SW.	1	Clear	0		3	S.	1	C. S.	1
	6	NW.	1	C.	1		6	SW.	1	C. S.	2		6	SW.	1	C.	4
	9	N.	1	C. K.	8		9	S. SW.	1	C.	1		9	S.	1	C. K.	3
	Noon	N.	1	C. K.	6		Noon	S.	2	C. K.	4		Noon	SE.	2	C. K.	3
	3	S. SW.	1	C. K.	5		3	S.	2	C. K.	4		3	SW.	2	C. K.	3
	6	SW.	1	C.	1		6	S.	1	C. K.	8		6	SW.	1	C.	1
	9	SE.	1	Clear	0		9	S. SW.	1	C. K.	2		9	N.	1	S.	1
Aug. 22	0	W.	1	C.	2	Aug. 23	0	NW.	3	K.	9	Aug. 24	0	NW.	1	S.	1
	3	NW.	1	K.	10		3	NW.	2	C. S.	2		3	NW.	1	S.	1
	6	NW.	1	C. K.	10		6	NW.	2	S.	1		6	NW.	1	Clear	0
	9	N. NW.	1	C.	6		9	NW.	2	Clear	0		9	NW.	2	Clear	0
	Noon	E.	1	K.	10		Noon	NW.	2	C. K.	7		Noon	NW	2	C.	4
	3	E.	1	K.	8		3						3	N. NW.	2	C.	3
	6	S. SE.	1	C. K.	8		6	NW.	1	C. S.	4		6	NW.	1	C. K.	2
	9	SW.	1	K.	10		9	NW.	1	S.	1		9	NW.	1	Clear	0
Aug. 25	0	NW.	1	Clear	0	Aug. 26	0	NW.	1	S.	1	Aug. 27	0	W.	1	Clear	0
	3	NW.	1	Clear	0		3	NW.	1	Clear	0		3	W. NW.	1	Clear	0
	6	NW.	1	Clear	0		6	N.	1	S.	1		6	W. NW.	1	Fog	
	9	N.	1	Clear	0		9	SE.	1	Clear	0		9	NW.	2	C. K.	5
	Noon	S.	1	C. K.	5		Noon	SW.	2	C. K.	3		Noon	W.	1	C. K.	3
	3	SE.	1	C. K.	2		3	SW.	2	K.	4		3	W.	2	C. K.	4
	6	SW.	1	Clear	0		6	SW.	1	C.	1		6	NW.	1	C.	6
	9	NW.	1	Clear	0		9	W.	1	Clear	0		9	SW.	2	C. S.	2
Aug. 28	0	SW.	1	Clear	0	Aug. 29	0	S. SW.	1	K.	10	Aug. 30	0	S.	1	Clear	0
	3	SW.	4	C. K.	6		3	NE.	1	K.	10		3			K.	8
	6	N.	1	Clear	0		6	NE.	1	K.	10		6	N. NE.	1	Fog	
	9	NE.	2	Clear	0		9	E.	1	K.	10		9	NE.	1	Fog	
	Noon	SW.	1	C. K.	3		Noon	SW.	1	K.	10		Noon	W.	1	C.	4
	3	NW.	1	Clear	0		3						3	NE.	1	C.	2
	6	E.	1	C. K.	3		6	SE.	2	Clear	0		6	E.	1	C. K.	3
	9	SE.	1	C. K.	10		9	SE.	1	Clear	0		9	E.	1	C. K.	7
Aug. 31	0	E.	1	C	6												
	3	E.	1	C. K.	10												
	6	NE.	1	K.	10												
	9	SE.	1	C. K.	7												
	Noon	S.	1	C. K.	5												
	3	SE.	1	C. K.	4												
	6	S. SW.	1	C.	4												
	9	SW.	1	Clear	0												

August 20. A light shower at 7h. 10m. p. m. Amount, 0.008 inch.
21. A light shower at 6h. 55m. p. m. Lightning continued till midnight. A considerable display of the Aurora Borealis near midnight. A faint appearance of streamers for a short time.
22. Showers at 1h. 35m. and at 7h. p. m. Amount of rain, 0.250 inch.
23. Many meteors in the N. from 10h. to 11h. p. m.
28. Lightning and thunder at 8h. p. m. and rain at 9h. 45. m. Amount of rain, 0.050 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1865.						1865.						1865.					
Sept. 1	0	SW.	1	Clear	0	Sept. 2	0	S.	1	C. K.	2	Sept. 3	0	N.	1	C. K.	6
	3	SW.	1	Clear	0		3	S.	1	Clear	0		3	N.	1	K.	10
	6	S.	1	C.	7		6	SW.	1	C.	6		6	W.	1	C. K.	9
	9	S.	1	C.	4		9	SW.	1	C. K.	10		9	SW.	1	C. K.	8
	Noon	S.	2	C. K.	7		Noon	NW.	1	C. K.	9		Noon	NW.	1	C.	4
	3	S.	1	C. K.	8		3	NW.	1	C. K.	9		3	W. NW.	1	C. K.	6
	6						6	SW.	1	C. K.	6		6	SE.	2	C. K.	8
	9	SW.	1	C. K.	4		9	NE.	1	C. K.	5		9	NW.	1	K.	10
Sept. 4	0	W.	1	K.	10	Sept. 5	0	N. NE.	1	K.	10	Sept. 6	0	SW.	1	C. K.	4
	3	W.	1	K.	10		3	NW.	1	K.	10		3	SW.	1	C. K.	1
	6	W.	1	C. K.	8		6	N. NE.	1	K.	10		6	SW.	1	S.	1
	9	W.	1	C. K.	4		9	N.	1	C. K.	10		9	S. SE.	1	C. K.	1
	Noon	NW.	1	C. K.	8		Noon	SE.	1	C. K.	7		Noon	W.	2	C. K.	4
	3	E.	1	C. K.	8		3	S.	1	C.	3		3	W.	2	C. K.	8
	6	NE.	1	C. K.	9		6	NW.	1	C. K.	8		6	W.	1	C. K.	6
	9	N.	1	C.	3		9	SW.	1	C. K.	6		9	W. NW.	1	C.	2
Sept. 7	0	W.	1	C.	1	Sept. 8	0	N. NE.	1	C. K.	10	Sept. 9	0	N.	1	C. K.	8
	3	NW.	1	C. K.	10		3	NE.	1	C. K.	8		3	NE.	1	K.	10
	6	W.	1	C. K.	7		6	E.	1	K.	10		6	N. NE.	2	K.	10
	9	N.	1	C. K.	7		9	E.	1	C. K.	10		9	NE.	2	K.	10
	Noon	SW.	1	C. K.	4		Noon	SE.	1	C. K.	10		Noon	NE.	1	K.	10
	3	S.	1	C.	4		3	SW.	1	C. K.	10		3	NE.	1	K.	10
	6	E.	1	N.	10		6	NE.	1	C. K.	9		6	NE.	1	K.	10
	9	N. NE.	1	C. K.	7		9	NW.	1	N.	10		9	NE.	2	K.	10
Sept. 10	0	N. NE.	2	K.	10	Sept. 11	0	NE.	1	K.	10	Sept. 12	0	S.	1	Clear	0
	3	N. NE.	1	K.	10		3	E.	1	K.	10		3	W.	1	C. K.	2
	6	NE.	1	K.	10		6	SW.	1	K.	10		6	S.	1	C. K.	6
	9	NE.	1	K.	10		9	S.	1	K.	10		9	S.	1	C. K.	6
	Noon	W.	1	K.	10		Noon	S.	1	C. K.	10		Noon	SE.	1	C. K.	7
	3	SW.	1	C. K.	8		3	SE.	1	C. K.	7		3	S. SW.	1	C. K.	7
	6	N.	1	K.	10		6	S. SE.	1	C. K.	4		6	E.	1	C. S.	0
	9	N.	1	K.	10		9	SW.	1	S.	1		9	E.	1	Clear	0
Sept. 13	0	E.	1	C. K.	4	Sept. 14	0	S. SE.	1	C. K.	2	Sept. 15	0	W.	1	Clear	0
	3	E.	1	C.	2		3	SE.	1	C. K.	8		3	NW.	1	Clear	0
	6	N. NE.	1	C. K.	10		6	NE.	1	K.	10		6	NW.	1	C. K.	2
	9	NE.	1	C. K.	8		9	W. SW.	1	K.	10		9	NW.	1	C. K.	6
	Noon	SE.	1	C. K.	10		Noon	SE.	1	C. K.	7		Noon	NW.	2	C. S.	3
	3	SE.	1	C. K.	8		3	SE.	1	C. K.	6		3	NW.	2	C. K.	6
	6	S. SE.	1	C. K.	8		6	W.	1	C. K.	5		6	NW.	1	C. K.	9
	9	SE.	1	C. K.	3		9	NW.	1	C.	2		9	NW.	1	C. K.	2

REMARKS.

September 2. Raining lightly at 2h. 50m. p. m.
3. A heavy shower with lightning and thunder at 7h. p. m. Amount of rain, 0.980 inch. Lunar halo at midnight.
4. Thunder at noon and a light shower at 4h. p. m.
7. Rain with lightning and thunder at 5h. p. m. Amount, 0.160 inch.
8. Heavy showers with lightning and thunder at 7h., 9h., and 10h. p. m. Amount of rain, 1.186 inch.
12. Several meteors appeared during the evening.
13. Raining from 9h. 15m. to 10h. 40m. a. m. Amount, 0.340 inch.
14. Shower at 0h. 20m.
15. A light shower at 6h. p. m.

Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865. Sept. 16	0	N.	2	C. S.	2	1865. Sept. 17	0	NW.	1	Clear	0	1865. Sept. 18	0	S.	1	C. S.	2
	3	N. NW.	2	Clear	0		3	NW.	1	Clear	0		3	S. SW.	1	C. S.	3
	6	N. NW.	1	Clear	0		6	W. NW.	1	Fog			6	SW.	1	C. S.	4
	9	N. NW.	1	Clear	0		9	E.	1	Clear	0		9	S.	1	C. K.	8
	Noon	N. NE.	2	Clear	0		Noon	S.	1	Clear	0		Noon	N.	1	C. K.	10
	3	NE.	1	Clear	0		3	S.	1	Clear	0		3	N.	1	C. K.	10
	6	E.	1	Clear	0		6	SW.	1	Haze			6	N.	2	K.	10
	9	NW.	1	Clear	0		9	SW.	1	C. S.	1		9	N.	3	K.	10
Sept. 19	0	N.	3	K.	10	Sept. 20	0	NW.	1	Clear	0	Sept. 21	0	NW.	1	Clear	0
	3	N.	2	K.	10		3	NW.	1	Clear	0		3	NW.	1	Clear	0
	6	N.	2	C. K.	8		6	NW.	1	Fog			6	SW.	1	C. K.	9
	9	NW.	1	C. K.	8		9	S.	1	Haze			9	SW.	1	C. S.	4
	Noon	NE.	1	C. K.	6		Noon	S.	1	C. K.	3		Noon	S.	1	C. S.	3
	3	N.	1	C.	2		3	S. SE.	1	C. K.	1		3	W.	1	C. K. S.	4
	6	N.	1	Clear	0		6	S. SE.	1	C. K.	3		6	S.	1	C. K. S.	7
	9						9	NW.	2	Clear	0		9	SW.	1	Clear	0
Sept. 22	0	SW.	1	Clear	0	Sept. 23	0	N.	1	Clear	0	Sept. 24	0	N.	1	Clear	0
	3	W.	1	C. K.	4		3	N.	1	Clear	0		3	N.	1	C. K.	2
	6	W.	1	S.	1		6	N.	1	C. K.	5		6	N.	1	C. S.	6
	9	W. NW.	1	C. K.	6		9	E.	1	C. K.	7		9	S.	1	C. K.	5
	Noon	NW.	1	C. K.	6		Noon	NE.	1	C. K.	7		Noon	E.	2	C. K.	4
	3	W.	1	C. K.	5		3	E.	2	C. K.	4		3	S.	1	C. K.	8
	6	NE.	1	C. K.	6		6	NE.	2	Haze			6	SW.	1	C. S.	4
	9	NE.	1	C.	4		9	N. NE.	1	Clear	0		9	S.	1	C.	3
Sept. 25	0	S.	1	C.	2	Sept. 26	0	NW.	2	C. K.	2	Sept. 27	0	NW.	1	Clear	0
	3	SW.	1	Clear	0		3	NW.	1	Clear	0		3	NW.	1	Clear	0
	6	SW.	1	C. K.	7		6	NW.	1	Clear	0		6	N.	1	Clear	0
	9	W.	1	N.	10		9	N. NW.	2	Clear	0		9	NE.	1	Clear	0
	Noon	NE.	1	K.	10		Noon	N.	2	Clear	0		Noon	NE.	1	C.	4
	3	W.	1	K.	10		3	N.	2	Clear	0		3	E.	1	C.	2
	6	W.	1	C. K.	10		6	N.	1	Clear	0		6	E.	1	C. K.	2
	9	NW.	1	C. K.	2		9	N.	1	Clear	0		9	NE.	1	Clear	0
Sept. 28	0	E.	1	S.	1	Sept. 29	0	NW.	1	Clear	0	Sept. 30	0	NW.	1	Clear	0
	3	NW.	1	Clear	0		3	NW.	1	Fog			3	W.	1	Clear	0
	6	NW.	1	C. S.	2		6	NW.	1	Fog			6	W. NW.	1	Fog	
	9	NW.	1	Haze			9	NW.	1	Clear	0		9	S.	1	Haze	
	Noon	SW.	1	Haze			Noon	S.	1	Clear	0		Noon	SE.	1	C. K.	2
	3	SE.	1	Clear	0		6	S.	1	Clear	0		3	SW.	1	C. K.	2
	6	W.	1	Clear	0		3	SW.	1	C. S.	1		6	NW.	3	C. K.	9
	9	W.	1	Clear	0		9	W.	1	Clear	0		9	NW.	1	C. K.	10

REMARKS.

September 18. Raining lightly at 2h. p. m.
25. Raining lightly at 7h. 50m. a. m.

Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865. Oct. 1	0	NW.	1	K.	10
	3	NW.	1	K.	10
	6	NW.	1	C. K.	8
	9	NW.	1	C. K.	7
	Noon	W.	1	C.	1
	3	W.	1	C.	1
	6	W.	1	Haze	
	9	NW.	1	C. K.	2
Oct. 4	0	W. NW.	2	K.	10
	3	NW.	2	C. K.	2
	6	NW.	2	C. K. S.	2
	9	NW.	2	C. K.	9
	Noon	NW.	2	C. K.	9
	3	NW.	2	C. K.	8
	6	NW.	3	C. K.	9
	9	W.	1	K.	10
Oct. 7	0	NW.	1	Clear	0
	3	W.	1	Clear	0
	6	W.	1	Clear	0
	9	W.	1	C.	1
	Noon	SW.	1	C.	2
	3	W.	2	C.	1
	6	W.	1	Clear	0
	9	W.	1	Clear	0
Oct. 10	0	NW.	1	Clear	0
	3	NW.	1	Clear	0
	6	SW.	1	S.	1
	9	NW.	2	S.	1
	Noon	NW.	3	Clear	0
	3	NW.	2	C. S.	2
	6	W. NW.	1	Clear	0
	9	NW.	1	Clear	0
Oct. 13	0	N.	1	C.	4
	3	N.	1	C. K.	8
	6	N.	1	C.	4
	9	NE.	1	C. K.	8
	Noon	NE.	1	C. K.	6
	3	S. SE.	1	C. K.	8
	6	S. SE.	2	C. K.	10
	9	SE.	1	K.	10

Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865. Oct. 2	0	W.	1	C. K.	4
	3	SW.	1	C. K.	3
	6	W. SW.	1	C. K.	3
	9	SE.	1	C. K.	7
	Noon	S.	1	C. K.	8
	3	NW.	2	C. K.	3
	6	N.	1	C. S.	2
	9	NW.	1	C.	1
Oct. 5	0	W. NW.	1	C. K.	9
	3	NW.	2	Clear	0
	6	NW.	2	C. S.	4
	9	NW.	3	C.	4
	Noon	NW.	3	C. K.	6
	3	NW.	2	C.	2
	6	NW.	2	C. K. S.	8
	9	NW.	1	Clear	0
Oct. 8	0	W.	1	Clear	0
	3	W.	1	C. K.	3
	6	W.	1	C.	1
	9	NW.	1	Clear	0
	Noon	W.	2	C. K.	2
	3	NW.	1	C. K.	5
	6	NW.	1	C. S.	2
	9	NW.	1	C. K.	4
Oct. 11	0	NW.	1	Clear	0
	3	NW.	1	Clear	0
	6	NW.	1	Clear	0
	9	W.	1	Clear	0
	Noon	S. SE.	1	C.	2
	3	W.	1	C. K.	2
	6	NW.	1	Clear	0
	9	SW.	1	C. K.	4
Oct. 14	0	E.	1	K.	10
	3	NE.	1	K.	10
	6	NE.	1	C. K.	4
	9	N. NE.	1	K.	10
	Noon	NE.	2	N.	10
	3	N. NE.	2	N.	10
	6	N. NE.	2	N.	10
	9	NE.	4	N.	10

Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865. Oct. 3	0	NW.	1	Clear	0
	3	NW.	1	Clear	0
	9	NW.	1	Clear	0
	9	NW.	1	S.	1
	Noon	NW.	2	C. K.	9
	3	NW.	2	C. K.	9
	6	W.	1	C. K. S.	9
	9	W.	1	C. K.	10
Oct. 6	0	NW.	5	Clear	0
	3	NW.	3	Clear	0
	6	NW.	1	C. S.	3
	9	NW.	2	C. S.	2
	Noon	NW.	2	C. K.	9
	3	NW.	1	C. K.	5
	6	N.	1	Clear	0
	9	NW.	1	Clear	0
Oct. 9	0	NW.	1	C. K.	7
	3	W.	1	C.	4
	6	W.	1	S.	1
	9	S.	1	Clear	0
	Noon	NW.	1	Clear	0
	3	W.	1	C.	1
	6	NW.	1	C. S.	2
	9	NW.	2	C. S.	2
Oct. 12	0	SW.	1	Clear	0
	3	NW.	1	Clear	0
	6	W.	1	S.	1
	9	NW.	3	S.	5
	Noon	NW	3	C. S.	6
	3	NE.	4	C. S.	3
	6	NE.	1	C. K.	5
	9	N.	2	C.	1
Oct. 15	0	N. NE.	4	N.	10
	3	NW.	2	N.	10
	6	NW.	2	K.	10
	9	NW.	1	N.	10
	Noon	NW.	2	N.	10
	3	W. NW.	3	K.	10
	6	NW.	1	K.	10
	9	NW.	2	C. K.	10

REMARKS.

October 1. A shower at 4h. a. m. Amount, 0.140 inch.
4. Light shower at 8h. 40m. p. m.
5. Light shower at 0h. 25m. a. m.
14. Rain at 11h. 45m. a. m. Amount, 0.465 inch.
15. Rain during the forenoon. Amount, 0.200 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1865.						1865.						1865.					
Oct. 16	0	NW.	2	K.	9	Oct. 17	0	W.	1	C.	2	Oct. 18	0	SE.	1	K.	10
	3	NW.	1	C. K.	3		3	NW.	1	Clear	0		3	SE.	1	K.	10
	6	W. NW.	2	S.	1		6	W. NW.	1	Fog			6	E.	1	N.	10
	9	NW.	3	C. K.	3		9	SW.	1	S.	1		9	NE.	1	N.	10
	Noon	NW.	3	C. K.	1		Noon	E.	1	C.	3		Noon	N. NW.	1	C. K.	10
	3	W. NW.	2	C. K.	2		3	S. SE.	1	C. K.	6		3	E. SE.	1	K.	10
	6	W.	1	C. S.	3		6	SE.	1	C. K.	8		6	SE.	1	N.	10
	9	NW.	1	Clear	0		9	SE.	1	K.	10		9	E.	1	N.	10
Oct. 19	0	NW.	4	K.	10	Oct. 20	0	NW.	2	K.	6	Oct. 21	0	SW.	1	C.	3
	3	NW.	4	K.	10		3	NW.	3	C. K.	2		3	SW.	1	C.	2
	6	W.	2	C. K.	9		6	SW.	2	Clear	0		6	W. SW.	1	K. S.	2
	9	NW.	2	C. K.	9		9	W. NW.	2	C. K.	3		9	W. SW.	3	C.	1
	Noon	S. SW.	2	C. K.	6		Noon	W. NW.	4	C. K.	3		Noon	NW.	2	Clear	0
	3	W. SW.	2	C. K.	9		3	W.	3	C. K.	2		3	W.	2	Clear	0
	6	SW.	3	C. K.	10		6	W.	1	S.	1		6	NW.	1	C. S.	1
	9	W.	2	Clear	0		9	SW.	1	Clear	0		9	NW.	1	Clear	0
Oct. 22	0	NW.	1	Clear	0	Oct. 23	0	SW.	1	C. K.	6	Oct. 24	0	NE.	1	C. K.	5
	3	NW.	1	Clear	0		3	S.	1	K.	10		3	NE.	2	C.	4
	6	W.	1	Clear	0		6	SW.	1	K.	10		6	N.	2	C.	6
	9	W. NW.	1	Clear	0		9	W.	1	K.	10		9	N. NE.	2	C. K.	8
	Noon	SE.	1	Clear	0		Noon	S. SE.	1	C.	4		Noon	N.	2	C. K.	10
	3	SE.	1	Clear	0		3	N. NW.	1	C. K.	6		3	NE.	1	C. K.	9
	6	S.	1	Clear	0		6	NE.	1	C.	10		6	N.	1	C. S.	2
	9	W.	1	Clear	0		9	NE.	1	Haze			9	NW.	1	Clear	0
Oct. 25	0	N.	1	Clear	0	Oct. 26	0	NE.	1	Clear	0	Oct. 27	0	SE.	1	C. K.	8
	3	N.	1	Clear	0		3	NW.	1	Clear	0		3	E.	1	C. S.	6
	6	N.	1	S.	1		6	NW.	1	C. K.	6		6	E.	1	C. K.	8
	9	N.	1	Clear	0		9	NW.	1	C. K.	10		9	SE.	0	C. K.	9
	Noon	N. NE.	1	C.	1		Noon	S. SE.	1	C. K.	10		Noon	S.	2	C. K.	9
	3	NE.	1	Clear	0		3						3	S.	2	C. S.	10
	6	NE.	1	Clear	0		6	S.	1	S.	1		6	S.	1	K.	10
	9	NE.	1	Clear	0		9	SE.	1	C. K.	5		9	S.	1	N.	10
Oct. 28	0	NW.	1	N.	10	Oct. 29	0	NW.	6	C. K.	7	Oct. 30	0	NW.	1	Clear	0
	3	NW.	5	N.	10		3	NW.	3	C. K.	8		3	NW.	1	Clear	0
	6	SW.	2	N.	9		6	NW.	2	C.	2		6	NW.	1	S.	1
	9	S. SW.	1	C.	3		9	NW.	3	Clear	0		9	NW.	1	C. S.	2
	Noon	SW.	1	C. K.	8		Noon	NW.	2	Clear	0		Noon	S.	1	C. S.	6
	3	NW.	1	C.	4		3	NW.	3	Clear	0		3	S.	1	C. S.	8
	6	NW.	8	Clear	0		6	NW.	1	Clear	0		6	SE.	1	C. S.	3
	9	NW.	6	C.	3		9	NW.	1	Clear	0		9	E.	1	C. K.	8

REMARKS.

October 18. Rain during the day, 0.400 inch.
27. Raining lightly at 4h. 40m. p. m. and continued till 6h. a. m. October 28. Amount of rain, 0.360 inch.

Day	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865. Oct. 31	0	SE.	1	K.	10
	3	SE.	1	K.	10
	6	NE.	1	K.	10
	9	NW.	1	N.	10
	Noon	NE.	1	N.	10
	3	N.	1	C. K.	5
	6	NE.	1	K.	10
	9	NW.	1	K.	10
Nov. 1	0	N. NW.	1	K.	10
	3	NW.	1	C. K.	8
	6	NW.	1	C. S.	3
	9	NW.	1	C. S.	2
	Noon	S.	1	C. S.	1
	3	E.	1	C. S.	7
	6	E.	1	C. K.	8
	9	S.	1	C. K.	7
Nov. 2	0	NE.	1	C. K.	8
	3	S.	1	K.	10
	6	S.	1	K.	10
	9	S.	1	N.	10
	Noon	S.	1	N.	10
	3	S.	1	K.	10
	6	S.	1	K.	10
	9	S.	1	K.	10
Nov. 3	0	W. NW.	1	K.	10
	3	NW.	1	K.	10
	6	N. NW.	1	K.	10
	9	N.	1	K. S.	8
	Noon	N.	1	K.	10
	3	N.	1	N.	10
	6	NE.	1	K.	10
	9	NE.	1	K.	10
Nov. 4	0	NE.	1	K.	10
	3	NE.	1	N.	10
	6	NE.	1	N.	10
	9	NE.	1	N.	10
	Noon	N. NW.	1	N.	10
	3	NW.	1	N.	10
	6	NW.	3	N.	10
	9	W. NW.	2	K.	10
Nov. 5	0	W.	1	C. S.	3
	3	W.	4	K.	10
	6	W.	3	C.	6
	9	W.	3	C. K.	4
	Noon	W. NW.	4	C. K.	9
	3	W.	4	C. K.	9
	6	W. NW.	4	C. K.	4
	9	NW.	3	C.	3
Nov. 6	0	W.	3	C. K.	3
	3	W.	1	Clear	0
	6	SW.	1	Clear	0
	9	SW.	1	C.	3
	Noon	S.	2	C.	2
	3	S.	2	C.	1
	6	SW.	1	S.	1
	9	W.	1	C. K.	2
Nov. 7	0	W. NW.	1	Clear	0
	3	W.	1	K.	10
	6	W.	1	C. K.	9
	9	W. NW.	1	C. K.	8
	Noon	NW.	2	C. K.	3
	3	W. NW.	2	C. K.	3
	6	N.	1	Clear	0
	9	NW.	1	Clear	0
Nov. 8	0	NW.	1	Clear	0
	3	NE.	1	Clear	0
	6	NE.	1	S.	1
	9	E. NE.	1	S.	1
	Noon	E. SE.	1	S.	1
	3	S.	1	Clear	0
	6	S.	1	C. S.	1
	9	S.	1	C. S.	2
Nov. 9	0	S.	1	C. K.	2
	3	S.	1	C. K.	8
	6	SW.	1	C. S.	6
	9	S. SW.	1	C. K.	6
	Noon	SE.	1	C. K.	7
	3	SE.	1	C. K.	6
	6	N.	1	Clear	0
	9	NE.	1	Clear	0
Nov. 10	0	N. NW.	1	C. S.	2
	3	NW.	1	Clear	0
	6	W.	1	C. S.	2
	9	N.	1	C. S.	3
	Noon	N. NE.	1	C.	6
	3	N.	1	S.	1
	6	N. NE.	1	S.	1
	9	N. NE.	1	Clear	0
Nov. 11	0	N. NE.	3	Clear	0
	3	N. NE.	1	C.	2
	6	N.	1	S.	1
	9	N. NE.	1	C.	7
	Noon	NE.	1	C. K.	3
	3	NE.	1	C. K.	3
	6	E.	1	Clear	0
	9	N.	1	Clear	0
Nov. 12	0	NW.	1	Clear	0
	3	NW.	1	Clear	0
	6	NW.	1	Clear	0
	9	NW.	1	Clear	0
	Noon	SE.	1	C.	1
	3	SE.	1	Clear	0
	6	S. SW.	1	Clear	0
	9	S. SW.	1	Clear	0

REMARKS.

October 31. Commenced raining at 5h. 40m. a. m. Amount, 0.574 inch.
November 1. Lunar halo at 10h. and 11h. p. m.
2. Commenced raining at 9h. a. m. Amount, 0.025 inch.
4. Rain at 0h. 45m. a. m. Amount, 0.900 inch.
5. A few flakes of snow at 5h. 20m. p. m.
10. Several meteors seen during the early part of the evening.
11. Many meteors seen from 0h. to 3h. a. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1865.						1865.						1865.					
Nov. 13	0	SW.	1	Clear	0	Nov. 14	0	NW.	2	Clear	0	Nov. 15	0	NW.	1	Clear	0
	3	SW.	1	Clear	0		3	NW.	2	Clear	0		3	NW.	1	C. K.	2
	6	W. SW.	1	C. K.	3		6	NW.	2	Clear	0		6	NW.	1	C. S.	5
	9	NW.	1	C. K.	1		9	NW.	1	Fog			9	NW.	1	C.	2
	Noon	SE.	1	C. K.	1		Noon	S.	1	Clear	0		Noon	SW.	1	Clear	0
	3	NW.	1	Clear	0		3	S.	1	S.	1		3	S.	1	Clear	0
	6	SW.	1	C.	2		6	S.	1	Clear	0		6	S.	1	Clear	0
	9	S.	1	C.	2		9	NW.	2	Clear	0		9	NW.	1	Clear	0
Nov. 16	0	NW.	1	Clear	0	Nov. 17	0	SE.	1	K.	10	Nov. 18	0	NW.	1	C. K.	6
	3	NW.	1	Clear	0		3	SE.	1	Mist	10		3	NW.	1	K.	2
	6	NW.	1	Haze			6	S. SW.	1	Mist	10		6	NW.	1	Clear	0
	9	NW.	1	Haze			9	S. SW.	1	Fog			9	N.	1	Haze	0
	Noon	S.	1	Haze			Noon	SW.	1	Clear	0		Noon	E.	1	C. K.	8
	3	S.	1	C.	1		3	W.	1	S.	1		3	NE.	1	C.	6
	6	S.	1	S.	1		6	NW.	1	C. K.	8		6	N. NE.	1	C. S.	2
	9	S.	1	K.	10		9	SW.	1	K. S.	2		9	N. NW.	1	K.	10
Nov. 19	0	NE.	1	C. S.	3	Nov. 20	0	N. NW.	1	K.	10	Nov. 21	0	N.	1	N.	10
	3	N.	1	K.	10		3	NW.	1	K.	10		3	N.	2	N.	10
	6	NW.	1	C. S.	7		6	NW.	1	K.	10		6	N.	2	N.	10
	9	SE.	1	C. K.	6		9	NE.	1	K.	10		9	NW.	2	N.	10
	Noon	NW.	1	C. S.	6		Noon	NE.	1	K.	10		Noon	NW.	2	C. K.	10
	3	NW.	2	C. K.	7		3	NE.	1	K.	10		3	NW.	2	N.	10
	6	N. NW.	1	C. S.	9		6	NE.	2	Mist	10		6	NW.	1	N.	10
	9	NW.	1	C. K.	6		9	NE.	1	N.	10		9	NW.	1	K.	10
Nov. 22	0	NW.	1	C. K.	10	Nov. 23	0	NW.	1	K.	10	Nov. 24	0	NW.	2	K. S.	2
	3	NW.	3	C. K.	8		3	W.	1	K.	10		3	NW.	3	S.	1
	6	NW.	2	C. S.	2		6	W.	1	K.	10		6	NW.	2	S.	1
	9	W.	2	C. K.	7		9	W.	1	C. K.	9		9	N.	3	C. S.	3
	Noon	W. NW.	2	K.	10		Noon	NW.	3	C. K.	8		Noon	NE.	2	C. S.	1
	3	W. NW.	1	K.	10		3	NW.	3	C. K.	9		3	NW.	2	Clear	0
	6	NW.	3	C. K.	10		6	NW.	1	K.	10		6	NW.	2	Clear	0
	9	NW.	3	C. K.	8		9	NW.	1	K.	10		9	NW.	2	Clear	0
Nov. 25	0	NW.	2	Clear	0	Nov. 26	0	NW.	1	Clear	0	Nov. 27	0	NW.	2	Clear	0
	3	NW.	3	Clear	0		3	NW.	1	Haze			3	NW.	1	K.	10
	6	NW.	2	Clear	0		6	NW.	1	K.	10		6	NW.	0	C. S.	8
	9	NW.	1	Clear	0		9	NW.	1	K.	10		9	W. NW.	1	C. K.	2
	Noon	NW.	2	Clear	0		Noon	NW.	1	C. S.	3		Noon	NW.	3	C. K.	2
	3	NW.	1	Clear	0		3	NW.	1	Clear	0		3	NW.	3	C. K.	3
	6	NW.	1	Clear	0		6	N. NW.	2	C. K.	8		6	NW.	3	Clear	0
	9	NW.	1	Clear	0		9	NW.	1	Clear	0		9	NW.	2	Clear	0

REMARKS.

November 20. Rain at 1h. 30m. p. m. and at 9h. p. m.; continued till 6h. p. m. on the 21st. Amount, 0.920 inch.
25. A brilliant meteor at 9h. 59m.; course, N.

Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.	Day.	Hour.	Wind. Direction.	Wind. Force.	Weather.	Portion cloudy.
1865. Nov. 28	0	NW.	3	Clear	0	1865. Nov. 29	0	S. SW.	2	C. K.	10	1685. Nov. 30	0	NW.	2	Clear	0
	3	NW.	2	Clear	0		3	S.	1	K.	10		3	NW.	2	Clear	0
	6	NW.	1	Clear	0		6	SW.	1	Haze			6	N.	1	C.	3
	9	NW.	1	Clear	0		9	NE.	1	N.	10		9	N.	1	C. K.	8
	Noon	W. SW.	1	Clear	0		Noon	NE.	1	N.	10		Noon	S.	1	C. K.	4
	3	S.	1	C. S.	2		3	N.	1	N.	10		3	S.	1	C. K.	8
	6	E.	1	C. K.	10		6	N.	1	K.	10		6	S.	1	C. K.	8
	9	S.	1	C. K.	10		9	NW.	1	K.	10		9	S.	2	C. K.	8
Dec. 1	0	S.	1	K.	10	Dec. 2	0	NW.	2	C. K.	8	Dec. 3	0	SW.	1	C. K.	9
	3	S.	1	K.	10		3	S.	1	N.	10		3	E. SE.	1	C. K.	7
	6	W.	1	C. K.	8		6	NW.	1	K.	10		6	S.	1	C. K.	8
	9	W.	2	C. K.	8		9	SE.	1	Fog			9	S.	1	C. K.	9
	Noon	W.	2	K.	10		Noon	SE.	1	C. S.	2		Noon	S.	1	C.	6
	3	NW.	1	C. S.	5		3	SW.	1	C. K.	6		3	S.	1	C. K.	8
	6	S.	1	Clear	0		6	S. SW.	1	C. K.	3		6	S.	1	K.	10
	9	NW.	1	C. S.	6		9	S. SW.	1	C. K.	3		9	SW.	1	Haze	
Dec. 4	0	S.	1	C. K.	9	Dec. 5	0	SW.	1	C. K.	9	Dec. 6	0	NE.	1	C. K.	10
	3	S.	1	C. S.	2		3	NW.	2	C. K.	8		3	NE.	1	C. K.	10
	6	SE.	1	C. S.	5		6	N.	1	C. K.	9		6	NE.	1	C. K.	10
	9	S.	1	C. K.	5		9	NW.	1	C. K.	8		9	E. SE.	1	Fog	
	Noon	S.	1	C. S.	2		Noon	N.	2	C. S.			Noon	NE.	1	C. K.	10
	3	SW.	1	S.	1		3	NW.	1	C. K.	9		3	E.	1	C. K.	10
	6	SW.	1	K.	10		6	N.	1	C. K.	8		6	N. NE.	1	N.	10
	9	S.	1	C. K.	9		9	E.	1	C. S.	5		9	N.	1	K.	10
Dec. 7	0	E. NE.	2	K.	10	Dec. 8	0	NW.	3	C. S.	1	Dec. 9	0	NW.	1	Clear	0
	3	NW.	1	K.	10		3	NW.	2	Clear	0		3	NW.	1	Clear	0
	9	NW.	1	K.	10		6	NW.	1	S.	1		6	SW.	1	C.	10
	6	SW.	1	Mist	10		9	NW.	2	Clear	0		9	NE.	1	Fog	
	Noon	SW.	2	C. K.	3		Noon	NW.	1	Clear	0		Noon	S.	1	C. K.	10
	3	NW.	4	C. K.	5		3	N.	1	Clear	0		3	S.	1	N.	10
	6	NW.	3	C. K.	8		6	N.	1	Clear	0		6	SE.	1	N.	10
	9	NW.	2	C. K.	4		9	NW.	1	Clear	0		9	S.	1	K.	10
Dec. 10	0	SW.	1	K.	10	Dec. 11	0	SE.	1	Clear	0	Dec. 12	0	SE.	1	K.	10
	3	NW.	1	K.	10		3	W.	1	K.	10		3	SE.	1	K.	10
	6	NW.	1	C. S.	2		6	NE.	1	K.	10		6	NW.	1	N.	10
	9	NW.	1	Fog			9	E.	1	Fog			9	NW.	1	N.	10
	Noon	NW.	1	C. S	6		Noon	N.	1	C. K.	10		Noon	W.	1	N.	10
	3	NE.	1	Clear	0		3	SE.	1	C. S.	9		3	NW.	1	K.	10
	6	E.	1	S.	1		6	SE.	1	K.	10		6	NW.	1	K.	10
	9	SW.	1	Clear	0		9	SE.	1	K.	10		9	NW.	1	Fog	

REMARKS.

November 29. Snow and rain at 8h. 25m. a. m.; changed to light sleet and rain at 4h. 30m. p. m. Amount, 0.415 inch.
December 2. A light mist at 0h. 30m. a. m.
4. A light mist at 0h. 30m. a. m.
5. Raining lightly at 5h. 45m. a. m.
6. Lunar halo at 0h. 10m. a. m.
7. Raining lightly from 1h. to 6h. 20m. p. m.
8. Several meteors during the night.
9. Lunar halo at 6h. a. m. Commenced snowing at 0h. 10m. p. m., and turned to rain at 3h. 40m. p. m. Amount, 0.350 inch.
10. Several meteors from 7h. to 10h. p. m.
11. A light mist at 11h. 30m. p. m.
12. Rain during the day. Amount, 1.100 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1865.						1865.						1865.					
Dec. 13	0	NW.	1	Fog		Dec. 14	0	NW.	2	N.	10	Dec. 15	0	NW.	3	Clear	0
	3	NW.	1	Clear	0		3	NW.	2	K.	10		3	NW.	2	Clear	0
	6	NW.	1	Clear	0		6	NW.	2	K.	10		6	NW.	3	C. S.	9
	9	N.	1	C. K.	10		9	NW.	2	Clear	0		9	NW.	2	C. S.	8
	Noon	N.	2	C. K.	10		Noon	NW.	3	Clear	0		Noon	NW.	2	C. K.	9
	3	NW.	2	C. K.	10		3	NW.	2	C.	1		3	NW.	2	C. S.	5
	6	NW.	3	K.	10		6	NW.	3	Clear	0		6	NW.	2	C. S.	1
	9	NW.	2	N.	10		9	NW.	3	Clear	0		9	NW.	1	Clear	0
Dec. 16	0	NW.	1	Clear	0	Dec. 17	0	E.	1	K.	10	Dec. 18	0	NE.	1	K.	10
	3	NW.	1	Clear	0		3	E.	1	N.	10		3	NE.	1	K.	10
	6	NW.	1	C. S.	2		6	SE.	1	N.	10		6	NE.	1	K.	10
	9	N. NW.	1	Haze			9	E.	1	K.	10		9	E. SE.	1	C. K.	7
	Noon	SW.	1	C. K.	6		Noon	E. SE.	1	K.	10		Noon	E. SE.	1	C. K.	10
	3	S.	1	C. K.	4		3	NE.	1	C. K.	2		3	E. SE.	1	C. K.	10
	6	SE.	1	Clear	0		6	NE.	1	C. S.	2		6	SE.	1	K.	10
	9	E.	1	K.	10		9	NE.	1	K.	10		9	SE.	1	K.	10
Dec. 19	0	SE.	1	K.	10	Dec. 20	0	NW.	1	K.	10	Dec. 21	0	E. NE.	1	N.	10
	3	NE.	1	N.	10		3	NW.	1	K.	10		3	E. NE.	1	N.	10
	6	NE.	1	N.	10		6	NW.	1	K.	10		6	SE.	1	K.	10
	9	SE.	1	C. K.	10		9	NE.	1	K.	10		9	NW.	5	K.	3
	Noon	SE.	1	C. K.	10		Noon	N. NE.	2	N.	10		Noon	NW.	7	K.	5
	3	SE.	1	N.	10		3	E. NE.	1	N.	10		3	NW.	5	K.	3
	6	NW.	1	N.	10		6	E. NE.	1	N.	10		6	NW.	2	S.	1
	9	NW.	1	K.	10		9	E. NE.	1	N.	10		9	NW.	2	Clear	0
Dec. 22	0	NW.	1	Clear	0	Dec. 23	0	NW.	1	Clear	0	Dec. 24	0	SE.	2	Clear	0
	3	NW.	2	Clear	0		3	NW.	1	Clear	0		3	E.	2	N.	10
	6	NW.	1	Clear	0		6	NW.	1	Clear	0		6	N.	1	N.	10
	9	W.	1	Clear	0		9	W.	1	Clear	0		9	NW.	1	N.	10
	Noon	S.	1	Clear	0		Noon	SW.	1	Clear	0		Noon	NW.	1	N.	10
	3	W.	1	Clear	0		3	S.	1	S.	2		3	SW.	1	N.	10
	6	NW.	1	Clear	0		6	S. SE.	1	Clear	0		6	SW.	1	K.	10
	9	NW.	1	Clear	0		9	SE.	1	Clear	0		9	NW.	1	Fog	
Dec. 25	0	SW.	1	Fog		Dec. 26	0	NE.	1	N.	10	Dec. 27	0	NW.	1	K.	10
	3	NW.	1	Fog			3	NE.	1	N.	10		3	SE.	1	K.	10
	6	NW.	1	K.	10		6	N. NE.	1	Fog			6	SW.	1	K.	8
	9	SW.	1	Fog			9	N. NE.	1	Fog			9	SW.	1	N.	10
	Noon	SW.	1	Fog			Noon	SE.	1	N.	10		Noon	SW.	2	C. K.	8
	3	SW.	1	Fog			3	S. SW.	1	Fog			3	NW.	1	C. K.	9
	6	S.	1	Fog			6	SW.	1	Fog			6	N. NW.	1	C. K.	10
	9	SW.	1	Fog			9	NW.	1	K.	3		9	N. NW.	1	C. K.	9

REMARKS.

December 13. A storm of sleet and rain.
17. Snowing at 1h. 20m. a. m. Depth, 0.600 inch.
18. Raining lightly at 4h. 30m. p. m.
19. Rain at 2h. 30m. a. m. and 0h. 10m. p. m. Amount, 0.390 inch.
20. Rain and snow during the day. Amount, 0.442 inch.
24. Snowing at 2h. 40m. a. m.
25. Rain and snow during the day. Amount of rain and melted snow on the 24th and 25th, 1.048 inch.
26. Raining at 0h. a. m. Amount, 0.352 inch.
27. Lightning at 7h. 30m. a. m. Raining lightly at 8h. a. m., and a heavy rain at 1h. 20m. p. m. Amount, 0.060 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1865.						1865.						1865.					
Dec. 28	0	N. NE.	1	C. K.	10	Dec. 29	0	NW.	1	C. K.	2	Dec. 30	0	NE.	1	K.	10
	3	N. NE.	1	K.	10		3	NW.	1	K.	5		3	NE.	1	N.	10
	6	N. NE.	1	K.	10		6	NW.	1	K.	3		6	NE.	1	N.	10
	9	NE.	1	K.	10		9	NW.	1	C. S.	8		9	NE.	1	N.	10
	Noon	N. NW.	1	K.	10		Noon	NW.	1	C. S.	3		Noon	N.	1	N.	10
	3	NW.	1	C. K.	6		3	NW.	1	C. K.	8		3	NW.	1	N.	10
	6	NW.	2	Clear	0		6	N.	1	C. K.	10		6	NW.	1	C. K.	8
	9	NW.	1	Clear	0		9	E.	1	C. K.	10		9	NW.	1	Clear	0
Dec. 31	0	NW.	1	K.	10												
	3	NW.	1	K.	10												
	6	NW.	1	K.	10												
	9	S.	1	Fog													
	Noon	SW.	1	Fog													
	3	SW.	1	Fog													
	6	S.	1	Fog													
	9	S.	1	K.	10												

REMARKS.

December 29. A lunar halo at 9h. p. m.
30. Snowing at 3h. a. m. Amount, 8.000 inches.

METEOROLOGICAL OBSERVATIONS.

MEAN MONTHLY AND ANNUAL RESULTS.

1865.

TABLE I.

Monthly means of barometric pressure.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	in.	in.	in.	in.	in.	in.	in.	in.
January .	29.982	29 987	29.990	30.021	29.990	29.963	29.970	29.988
February .	30.035	30.028	30.032	30.059	30.043	29.995	30.018	30.031
March . .	29.973	29.964	29.968	29.994	29.991	29.924	29.937	29.954
April . .	30.000	29.999	30.010	30.062	30.031	29.984	29.990	30.026
May . .	29.858	29.859	29.877	29.893	29.871	29.841	29.842	29.869
June . .	29.965	29.975	29.995	30.012	29.999	29.963	29.951	29.977
July . .	29.906	29.903	29.933	29.946	29.942	29.912	29.894	29.925
August .	29.976	29 971	29.994	30.017	29.996	29.964	29.944	29.972
September .	30.048	30.046	30.067	30.077	30.051	30.005	30.003	30.022
October .	29.912	29.911	29.933	29.958	29.928	29.893	29.902	29.926
November .	30.047	30.010	30.024	30.058	30.017	29.984	29.983	30.039
December .	30.035	30.032	30.048	30.101	30.066	30.047	30.054	30.070
Ann'l means	29.980	29.974	29.989	30.017	29.994	29.956	29.957	29.983

TABLE II.

Monthly means of dry thermometer.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	o	o	o	o	o	o	o	o
January .	25.47	24.02	23.14	25.75	31.03	32.12	29.45	27.63
February .	29.78	28.56	27.62	30.71	36.92	38.61	34.47	31.48
March . .	43.88	42.37	40.97	46.49	52.54	55.35	50.91	47.18
April . .	51.51	49.44	49.03	56.05	61.71	63.73	59.40	54.46
May . .	58.11	56.28	55.56	63.88	69.50	71.93	67.71	61.64
June . .	69.94	68.47	68.39	75.47	81.64	82.69	78.45	72.66
July . .	70.74	69.45	69.01	76.63	80.96	82.96	79.99	73.14
August .	68.36	66.95	66.17	73.50	80.55	82.40	77.90	71.18
September .	67.68	66.04	64.77	72.64	81.82	83.52	75.48	70.63
October .	50.13	48.06	46.71	54.95	61.45	64.78	56.75	51.60
November	41.60	39.98	38.66	43.47	52.52	53.96	47.31	43.68
December .	36.15	35.39	34.07	36.20	40.89	41.99	38.18	36.60
Ann'l means	51.11	49.58	48.68	54.65	60.96	62.84	58.00	53.49

TABLE III.

Monthly means of wet thermometer.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	o	o	o	o	o	o	o	o
January .	24.47	21.88	23.93	23.85	29.19	29.47	28.48	23.69
February .	29.43	28.44	28.89	29.94	33.46	35.06	32.84	30.81
March . .	41.42	40.08	38.95	42.64	46.29	48.37	47.36	43.97
April . .	48.23	47.09	47.10	50.98	54.58	55.48	53.12	50.82
May . .	55.50	54.34	54.26	59.64	62.53	63.50	62.03	58.41
June . .	68.48	67.38	67.40	71.67	75.05	75.33	73.15	70.27
July . .	68.22	67.95	67.20	71.01	72.83	73.91	73.35	70.28
August .	66.89	65.36	64.84	68.89	72.58	73.69	71.85	68.91
September .	66.78	65.31	64.11	69.63	74.57	76.39	72.42	69.22
October .	48.28	46.60	43.27	50.72	55.81	57.62	52.70	49.00
November .	40.91	39.08	38.12	40.93	47.33	48.45	44.30	42.18
December .	38.39	38.54	37.39	37.83	41.14	45.61	39.05	38.24
Ann'l means	49.75	48.50	47.96	51.44	55.45	56.91	54.22	51.32

TABLE IV.

Monthly means of sun thermometer.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.	o	o	o	o	o	o	o	o
January .	22.03	20.90	19.90	41.34	60.52	50.91	26.30	24.60
February .	27.17	25.89	25.21	49.42	73.45	63.60	31.83	28.48
March . .	40.73	39.23	37.85	67.45	81.69	78.75	50.49	44.21
April . .	47.26	45.55	47.33	79.28	95.64	90.12	60.19	50.46
May . .	53.58	51.71	54.40	94.27	109.38	106.49	72.86	56.58
June . .	66.04	64.93	70.45	105.30	122.35	114.88	90.63	68.37
July . .	66.42	65.46	68.83	108.35	117.53	117.10	92.20	68.55
August .	64.51	63.09	67.12	105.92	118.40	112.76	81.47	67.05
September .	64.05	62.35	61.56	102.01	119.72	111.10	72.30	68.69
October .	46.27	44.60	42.84	79.81	97.20	83.63	51.76	47.07
November .	38.25	37.19	35.71	64.43	84.14	73.11	43.05	39.84
December .	33.37	32.93	32.04	47.62	62.17	53.16	36.00	33.65
Ann'l means	47.47	46.15	46.94	78.77	95.18	87.97	59 09	49.80

TABLE V.

Amount of rain in 1865.

Month.	Inches.
January	4.226
February	3.526
March	5.996
April	2.416
May	5.241
June	4.858
July	5.456
August	0.963
September	2.866
October	2.139
November	2.260
December	4.722
Annual amount	44.669

TABLE VI.

Showing the number of times in each month that the wind blew from the north at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	1	4	2	3	1	0	2	0
February	3	1	2	4	2	5	9	4
March	2	1	2	0	2	0	1	0
April	0	0	0	1	0	2	3	2
May	2	1	1	6	4	4	6	5
June	3	2	4	2	1	0	1	2
July	6	3	4	6	3	1	4	8
August	4	4	4	6	3	2	3	5
September	9	6	8	5	3	4	3	6
October	3	2	3	3	3	3	4	1
November	5	3	4	6	3	4	6	3
December	1	1	4	3	7	2	5	2
	39	28	38	45	32	27	47	38

Showing the number of times in each month that the wind blew from the north-east at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	3	5	6	4	3	2	2	5
February	4	4	5	5	5	3	2	3
March	1	3	4	4	3	2	3	2
April	5	6	6	4	0	1	2	2
May	4	4	5	1	2	2	3	3
June	4	4	5	5	2	2	3	3
July	1	2	3	1	0	2	3	2
August	2	2	4	5	3	1	3	1
September	2	2	2	4	4	2	6	4
October	2	2	2	2	3	2	4	3
November	3	2	2	2	4	3	2	3
December	4	4	5	5	2	2	1	1
	35	40	49	42	31	24	34	32

Showing the number of times in each month that the wind blew from the east at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	2	1	0	2	3	1	4	2
February	0	1	0	0	0	1	1	1
March	3	2	3	4	1	4	4	4
April	2	2	2	4	7	5	5	4
May	2	1	1	0	0	1	1	1
June	0	1	1	0	4	3	4	2
July	0	0	0	0	2	3	4	2
August	2	1	0	2	4	3	3	2
September	2	2	1	2	2	3	4	1
October	1	1	2	0	1	1	0	2
November	0	0	0	1	2	1	3	1
December	3	4	0	4	2	3	2	4
	17	16	10	19	28	29	35	26

Showing the number of times in each month that the wind blew from the south-east at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	1	0	0	1	1	3	2	2
February	2	2	2	1	3	4	2	3
March	3	5	2	0	5	5	4	3
April	1	2	0	1	1	3	1	3
May	3	4	2	5	5	4	2	3
June	3	1	1	8	7	3	5	3
July	2	1	2	0	2	1	1	0
August	0	0	1	3	1	4	3	2
September	0	1	0	0	6	4	1	1
October	3	2	0	2	1	1	3	3
November	1	1	0	1	3	2	0	0
December	4	3	3	2	3	2	4	3
	23	22	13	24	38	36	28	26

Showing the number of times in each month that the wind blew from the south at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	4	2	2	4	6	8	5	2
February	2	0	3	5	6	3	4	1
March	8	4	5	8	8	9	9	5
April	8	7	8	8	9	9	7	6
May	6	4	5	9	8	9	10	7
June	7	8	9	10	10	10	6	5
July	3	3	0	2	6	6	8	6
August	6	2	2	5	7	5	6	4
September	5	2	2	8	5	8	5	1
October	0	1	0	2	7	4	4	1
November	2	3	2	3	6	8	7	6
December	2	3	1	3	4	5	6	5
	53	39	39	67	82	84	77	49

Showing the number of times in each month that the wind blew from the south-west at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	1	2	2	1	0	0	2	1
February	0	0	0	2	0	0	0	1
March	1	5	6	5	3	2	3	5
April	1	1	2	1	3	2	3	2
May	5	2	4	1	3	2	3	7
June	2	4	2	1	3	6	6	7
July	4	6	6	1	3	5	4	7
August	2	6	3	1	3	5	7	5
September	3	3	6	3	3	5	4	5
October	3	2	4	1	2	0	1	2
November	1	1	3	1	2	0	1	1
December	4	0	2	3	6	5	3	3
	27	32	40	21	30	32	37	46

NOTE.—In preparing these tables, whenever the wind has been recorded as N. NE., E. SE., S. SE., &c., the observations are placed in the table most nearly coinciding with the direction.

TABLE VI—Continued.

Showing the number of times in each month that the wind blew from the west at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	2	2	3	5	5	4	2	1
February	3	3	4	7	2	5	4	2
March	5	3	2	4	4	4	1	2
April	5	4	4	3	6	4	4	1
May	2	6	2	2	1	2	3	1
June	8	6	5	4	2	4	4	3
July	4	7	8	9	7	6	2	0
August	8	1	1	1	3	3	2	3
September	3	6	7	4	2	3	3	3
October	5	3	10	6	3	9	6	5
November	4	3	6	5	3	4	2	2
December	0	1	1	3	2	1	0	0
	49	45	53	53	40	49	33	23

Showing the number of times in each month that the wind blew from the north-west at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	18	14	16	11	13	12	13	17
February	14	16	12	5	10	8	6	13
March	8	8	7	5	3	6	6	8
April	8	8	7	8	5	4	5	9
May	8	9	11	8	8	6	3	4
June	3	4	3	1	1	2	1	5
July	11	8	8	11	9	7	4	6
August	7	11	15	6	6	1	4	7
September	7	9	5	4	6	2	3	7
October	15	18	10	15	11	10	9	14
November	15	16	14	10	8	8	8	14
December	13	15	15	9	6	12	10	14
	127	136	123	93	76	78	72	118

Showing the number of times in each month that it was calm at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	0	0	0	0	0	0	0	0
February	0	1	0	0	0	1	0	0
March	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	1	0
July	0	0	0	0	0	0	0	0
August	0	1	0	0	0	0	0	0
September	0	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0
	0	2	0	0	0	1	1	0

TABLE VII.

Showing the number of times in each month that it was clear at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	5	5	4	4	4	6	4	7
February	5	7	6	3	2	1	1	5
March	6	6	3	3	3	1	3	8
April	12	10	7	3	2	2	5	8
May	7	7	6	3	1	3	5	8
June	4	4	2	1	0	0	1	3
July	7	5	4	3	0	0	2	4
August	10	5	3	6	0	1	3	10
September	12	12	2	4	3	4	3	8
October	11	12	5	5	5	4	8	12
November	13	9	6	3	5	7	9	11
December	7	7	3	4	4	3	7	9
	99	89	51	42	29	32	51	93

Showing the number of times in each month that cirrus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	4	5	2	4	3	2	1	4
February	2	1	2	4	5	5	0	3
March	6	2	1	3	8	7	5	2
April	3	1	0	3	7	6	5	5
May	2	2	3	4	7	2	2	3
June	4	4	4	3	3	3	5	5
July	2	3	3	5	5	4	3	3
August	4	0	4	5	3	2	10	0
September	2	1	2	1	2	4	0	5
October	3	3	4	4	6	5	1	3
November	0	1	1	3	3	3	1	2
December	0	0	1	0	1	1	0	0
	32	23	27	39	53	44	33	35

TABLE VII—Continued.

Showing the number of times in each month that cirro-cumulus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	7	8	5	8	11	12	5	7
February	8	8	9	5	12	12	5	5
March	6	8	5	8	12	13	10	5
April	3	3	7	8	10	14	8	7
May	10	6	9	9	14	16	13	6
June	7	8	8	12	20	17	11	10
July	8	9	10	14	19	20	18	11
August	8	13	9	15	23	16	14	8
September	8	7	10	15	18	18	15	8
October	8	7	8	9	15	13	5	7
November	6	4	2	8	9	7	6	5
December	7	3	4	8	9	12	6	5
	86	84	86	119	172	170	116	84

Showing the number of times in each month that cirro-stratus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	2	2	4	3	4	2	4	1
February	1	2	1	3	1	0	7	2
March	1	0	5	5	1	2	3	1
April	1	0	3	0	0	0	1	1
May	1	2	0	1	0	1	2	1
June	0	0	1	2	0	0	1	3
July	2	1	1	2	0	0	1	4
August	0	2	2	0	0	0	1	5
September	1	1	3	1	2	0	3	1
October	0	1	2	2	2	4	7	1
November	2	0	7	3	4	2	1	1
December	1	1	3	2	6	2	2	2
	12	12	32	24	20	13	33	23

Showing the number of times in each month that cumulus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	5	5	10	6	2	2	7	5
February	5	4	3	4	0	1	4	2
March	7	6	7	3	1	3	3	9
April	7	9	4	5	7	3	3	3
May	7	9	5	4	3	2	5	6
June	6	8	9	7	2	4	2	3
July	7	6	6	4	5	3	3	3
August	7	7	7	4	4	3	1	3
September	5	7	6	4	3	2	3	4
October	7	6	3	2	0	2	3	4
November	7	10	5	2	3	3	5	8
December	11	12	12	4	4	2	7	9
	81	89	77	49	34	30	46	59

Showing the number of times in each month that cumulo-stratus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	0	0	1	1	0	0	0	0
February	0	1	0	0	0	0	0	0
March	0	1	1	0	0	0	0	0
April	0	0	0	0	0	0	1	0
May	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0
July	0	0	2	0	0	0	1	1
August	0	0	0	0	0	0	0	1
September	0	0	0	0	0	1	1	0
October	0	0	1	1	0	0	2	0
November	1	0	0	1	0	0	2	1
December	0	0	1	0	0	0	0	0
	1	2	6	3	0	1	7	3

Showing the number of times in each month that stratus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	2	1	2	2	1	0	4	1
February	2	0	0	0	0	0	3	1
March	1	1	4	0	1	0	0	0
April	0	0	0	2	0	0	0	0
May	0	1	0	1	2	0	0	1
June	2	0	0	0	0	0	0	3
July	1	2	1	0	0	1	0	2
August	2	1	2	0	0	0	0	3
September	1	0	2	0	0	0	0	1
October	0	0	6	4	0	1	1	0
November	0	1	3	1	1	3	3	0
December	0	0	1	0	0	2	2	0
	11	7	21	10	5	7	12	12

Showing the number of times in each month that nimbus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1865.								
January	5	3	2	4	4	6	5	4
February	1	2	4	3	4	4	5	7
March	3	6	4	6	5	4	6	4
April	1	3	3	3	0	3	3	2
May	4	4	6	4	4	3	3	4
June	1	2	1	1	2	2	5	1
July	2	3	2	2	1	2	2	2
August	0	1	1	0	2	1	2	1
September	0	0	0	1	0	0	1	1
October	2	2	2	3	3	1	2	3
November	1	2	3	4	3	4	2	2
December	7	5	5	6	6	6	5	2
	27	33	33	37	34	36	41	32

LIST

OF

PUBLICATIONS PRESENTED TO THE LIBRARY

DURING

THE YEAR 1865.

LIST OF PUBLICATIONS PRESENTED TO THE LIBRARY DURING THE YEAR 1865.

Date.	Publications.	From whom received.
Jan. 16	Bulletin de la Société Imperiale des Naturalistes de Moscow. 1863. Nos. 3 and 4. 1864. No. 1	Société Imperiale des Naturalistes de Moscow.
	Natuurkundige Verhandelingen van de Hollandsche Maatschappij der Wetenschappens te Haarlem. Tweede Verzameling. XIX. Bringbock Deel	Society of Sciences of Holland.
27	Notices to Mariners. Nos. 69, 70, and No. 1	Hydrographic Office, London.
Feb. 1	Meteorologiska Jakttagelser i Sverige. Bd. 4	The Swedish Royal Academy of Sciences.
	Meteorologische Beobachtungen, December, 1863. March, 1864	The Swiss Meteorological Commission.
	Beobachtungen der Kaiserlichen Universitäts-Sternwarte. Dorpat. Von Dr. J. H. Mædler. XV Band. 1 and 2 Abth	The Observatory at Dorpat.
	Considerations sur la prévision des tempêtes et specialement sur celles du 1 au 4 Decembre, 1864. F. Müller	The Central Physical Observatory of Russia.
	Compte-Rendu Annuel adressé a S. Exc. M. de Rentern, ministre des finances, par le Directeur de l'Observatoire Physique Central de Russie. Année 1860. Nos. 1 and 2	Same.
	Annales de l'Observatoire Physique Central de Russie. Année 1860. Nos. 1 and 2. Année 1861. Nos. 1 and 2	Same.
	Astronomical Observations made at the Royal Observatory, Greenwich, in the year 1862	The Royal Observatory, Greenwich.
	Memoirs of the Royal Astronomical Society. Vol. 32	The Royal Astronomical Society, London.
6	Notices to Mariners. Nos. 2 and 3	The British Hydrographic Office.
14	Relatorio do servico do Observatorio do Infante D. Luiz, no Anno Meteorologico de 1863–'64	The Observatory of the Infante D. Luiz, Lisbon.
25	The British Almanac and Companion. 1865	(Purchased.)
	The British Navy List for January, 1865	Same.
	Report of the British Association for the advancement of Science for 1863	Same.
March 7	Notices to Mariners. No. 6	The British Hydrographic Office.
9	Annual of the National Academy of Sciences for 1863–'64	The National Academy of Sciences.
	Report of the National Academy for 1863	Same.
	Report of the General Superintendent of Freedmen, Department of the Tennessee, and State of Arkansas. 1864	Freedmen's Bureau.
	Abstract of a Memoir on Shooting Stars. By Prof. H. A. Newton	Prof. Newton.
	Annuaire de la Société Météorologique de France. Tome XII. Bulletin de Seances. F. 14-21	The Meteorological Society of France.
	Recherches sur la quantité d'éther contenue dans les liquides, par M. Hoeck et A. C. Oudemans. Addition à la premiere livre des Recherches Astronomiques	The Observatory at Utrecht.
	Recherches Astronomiques de l'Observatoire d'Utrecht, publiées par M. Hoeck, Directeur. II Livraison	Same.
	Correspondenzblatt des Naturforschenden Vereins zu Riga. 14 Jahrgang	Naturforschenden Vereins, Riga, Russia.
15	Mittheilungen aus Justus Perthes' Geographischer Anstalt, &c. 1864. X and XI.	Justus Perthes.
	Journal of the Royal Geographical Society. Vol. 33	Royal Geographical Society, London.
	On the relative power of Glaciers and Floating Icebergs in modifying the surface of the Earth. Sir R. J. Murchison	Same.
	Philosophical Transactions of the Royal Society. London. Vol. 154. Parts I and II	Royal Society, London.
	Results of the Magnetical and Meteorological Observations made at the Royal Observatory, Greenwich. 1862	Same.
	Abstracts of Meteorological Observations made at the Magnetical Observatory, Toronto, Canada West, during the years 1854 to 1859, inclusive	The Magnetical Observatory, Toronto, C. W.
	Results of Meteorological Observations made at the Magnetic Observatory, Toronto, Canada West, during the years 1860–'61–'62	Same.
	Abstract of Meteorological Observations made at Milwaukee, Wis, from 1837 to 1864	Dr. I. A. Lapham.
	A map of Wisconsin, with lines showing the remarkable effect of Lake Michigan in elevating the mean temperature of January and depressing that of July. By I. A. Lapham, LL.D. 1865	I. A. Lapham.
	Notices to Mariners. Nos. 7 to 15	British Hydrographic Office.
23	Astronomical Observations made at the Observatory of Cambridge. Vol. XX. For the years 1855 to 1860	Observatory at Cambridge, England.
27	Sitzungsberichte der König. Bayer. Akademie der Wissenschaften zu München. 1863. Vol. II. Heft 2, 3, 4. 1864. Vol. I. Heft 1, 2, 3, 4, 5. Vol. II. Heft 12	The Royal Bavarian Academy of Sciences.
	Untersuchungen über den Magnetismus der Erde. Von C. Hansteen. I Theil	Kongelige Norske Universitet i Christiania.
	Magnetischer Atlas gehörig zum Magnetismus der Erde. Prof. C. Hansteen	Same.
	Meteorologische Beobachtungen. Aufgezeichnet auf Christiania's Observatorium. III and IV Lieferung. 1848–'55. Pag. 281 bis pag. 488	Same.
	Indberetning om astronomiske og geodetiske Observationer, anstillede paa en Reise i Sondre Bergenhuus' Amt i Sommeren 1863, af J. J. Astrand	Same.
	Resultate Magnetischer, Astronomischer, und Meteorologischer Beobachtungen auf einer Reise nach dem Oestlichen Sibirien in den Jahren 1828–'30. Von Prof. C. Hansteen und Lieut. Due	Same.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt, &c. 1864. XII. Ergänzungsheft. No. 14	Justus Perthes.
April 1	Annales de l'Observatoire Imperial de Paris. Observations: Vols. 6, 7, 8, 18, 19. Memoirs. Vol. VII	The Imperial Observatory of Paris.
	Atlas Ecliptique, par M. Chacornac. Nos. 1, 1*a*, 4, 13, 22, 26, 27, 28, 29, 30, 34, 50, 51, 61, 63, 64*a*, 72	Same.
	Annales de l'Observatoire Royal de Bruxelles. Tome XVI	Royal Observatory, Brussels.
	Observations des Phenomènes periodiques	Same.
	Annuaire de l'Observatoire Royal de Bruxelles. 1864	Same.
3	Notices to Mariners. Nos. 16, 21	British Hydrographic Office.

Date.	Publications.	From whom received.
April 15	Natuurkundige Verhandelingen van de Hollandsche Maatschappig der Wetenschappen te Haarlem. Tweede Verzammeling. XXI. Deel. 1 Stuck	The Society of Sciences, Holland.
	Ephemeris Astronomicas Calculadas para o Meridiano do Observatorio da Universidade de Coimbra. 1866	University of Coimbra.
May 1	Monthly Meteorological Register at the Provincial Observatory, Toronto, Canada West. October, 1864, to January, 1865. (2 copies)	Provincial Magnetic Observatory, Toronto.
	Mean Meteorological Results at Toronto for 1864. (3 copies)	Same.
	Monthly Absolute Values of the Magnetic Elements at Toronto, 1856 to 1864, inclusive.	Same.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1865. Ergänzungsheft. 15.	Justus Perthes.
	Notices to Mariners. Nos. 22, 23	British Hydrographic Office.
10	United States Navy Regulations. 1865	United States Navy Department.
	Berliner Astronomisches Jahrbuch. 1867	(Purchased)
17	Annual Report Trustees Museum Comparative Zoology, Harvard College, Cambridge, with Report of Director. 1864. (2 copies)	Museum of Comparative Zoology.
	List of Am. Academy Arts and Sciences. May 24. 1864	Am. Academy Arts and Sciences.
29	Notices to Mariners. Nos. 24, 25, 26	British Hydrographic Office.
June 19	Proceedings Am. Academy Arts and Sciences. 1864, pp. 341–364	Am. Academy Arts and Sciences.
	Annuaire de la Société Meteorologique de France. Tome XII. Bulletin des Seances. F. 22–30. 1864	The Meteorological Society of France.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1865. I–II	Justus Perthes.
	Uebersichten der Witterung in Oesterreich und einigen auswärtigen Stationen in Jahre 1863	Royal Central Office for Meteorology and Magnetism.
	Verhandelingen van het Bataviasch Genootschap van Kunsten en Wetenschappen. Deel 29	Batavian Society of Arts and Sciences.
	Tidschrift voor Indische Taal, Land, en Volken-Kunde. Deel XI and XII	Same.
	Denkschriften der Kaiserlichen Academie der Wissenschaften. Band 23. Wien	Imperial Academy of Sciences, Vienna.
	Sitzungsbericht der Kaiserlichen Akademie der Wissenschaften, Mathem. Naturw. Classe. 1863. Bd. II. Heft 10. 1864. Bd. I. H. 1, 2, 3, 4, 5, 6, 7. Bd. II. H. 2, 3, 4, 5, 6, 7	Same.
30	Notices to Mariners. Nos. 27, 28, 29, 30, 31	British Hydrographic Office.
July 13	Gauss' Theoria Motus. Translated by Davis. (3 copies)	American Nautical Almanac Office.
	Inhaltsverzeichniss von Petermann's Geographischen Mittheilungen. 1855–1864	Justus Perthes.
	Meteorologische Beobachtungen. June, July, and August. 1864	Meteorological Society, Zurich.
	Mittheilungen der K. K. Geographischen Gesellschaft. VII Jahrgang. 1863	Imperial Geog. Society, Vienna.
18	Annalen der Königlichen Sternwarte bei München. XIV Band	Royal Observatory, Munich.
	Astronomical and Meteorological Observations made at the Radcliffe Observatory, Oxford, in the year 1862	Radcliffe Observatory.
26	Notices to Mariners Nos. 32 to 39	British Hydrographic Office.
Aug. 5	Description of an Automatic Registering and Printing Barometer. G. W. Hough	Dudley Observatory.
7	Revista Trimensal do Instituto Historico Geographico e Ethnographico do Brasil. Tomo XXVII, p. 1 and 2	The Hist., Geographical, and Ethn. Institute of Brazil.
	Annuaire de la Société Meteorologique de France. Tome XII. Bulletin des Seances. F. 31, 37	The Meteorological Society of France.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1865. IV	Justus Perthes.
	Anuario del Real Observatorio de Madrid. 1865	Royal Academy of Sciences, Madrid.
	Libros Alfonsies del Saber de Astronomia. Tomo 3	Same.
	Memorias de la Real Academia de Ciencias de Madrid. T. 6, 2 Serie. Ciencias fisicas. T. 2, parte 1 y 2	Same.
18	Resumen de las actas de la Real Academia de Ciencias de Madrid. 1862–'63	Same.
	Almanach der Oesterreichischen Kriegs-Marine—für das Jahr 1865	
	Journal of the Statistical Society of London. Vol. 28, part 2	Statistical Society, London.
Sept. 18	Nautisch-Physikalischer Theil des Reisewerkes S. M. Fregatte Novara. I, II Abth	United States Navy Department.
Oct. 4	Report of Overseers of Harvard College on the Observatory, 1864, and Report of Director.	Observatory of Harvard College.
5	Notices to Mariners. Nos. 39–54	British Hydrographic Office.
30	Notices to Mariners. Nos. 54–67	Same.
	Recherches sur la temperature de l'air	Prof. Charles Dufour, Switzerland.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1865. Parts 5 to 9	Justus Perthes.
	Annales de l'Observatoire physique Central de Russie, pour l'annee 1862	Central Physical Observatory.
	Bulletin de la Société Meteorologique de France. Tome treizieme, 2 pt	La Société Meteorologique de France.
	Annuaire de la Société Meteorologique de France. Tome troisieme, 2 pt	Same.
	Nuove Tavoli dei Moti Apparenti del Sole, Merid. de Milano	Royal Observatory, Milan.
	Effemeridi Astronomische de Milan. 1864–'65	Same.
	Notice to Mariners. Nos. 68, 69	British Hydrographic Office.
	Zchwerische Meteorologische Beobachtungen	Mr. F. Hanke, Zurich.
	Proceedings Royal Society. Nos. 70 to 78	Royal Society, London.
	Proceedings Royal Geographical Society. London	H. W. Bates, Assistant Secretary.
	Philosophical Transactions of Royal Society. Part III, 1864. Part I, 1865	Royal Society, London.
	Meteorologische Beobachtungen. 1837–1863. Christiania's Observatorium	Director of the Observatory at Christiania.
	Meteorologische Jagttagelser i Christiania Beretning om en botanisk Reise i Valders	Same.

ERRATA.

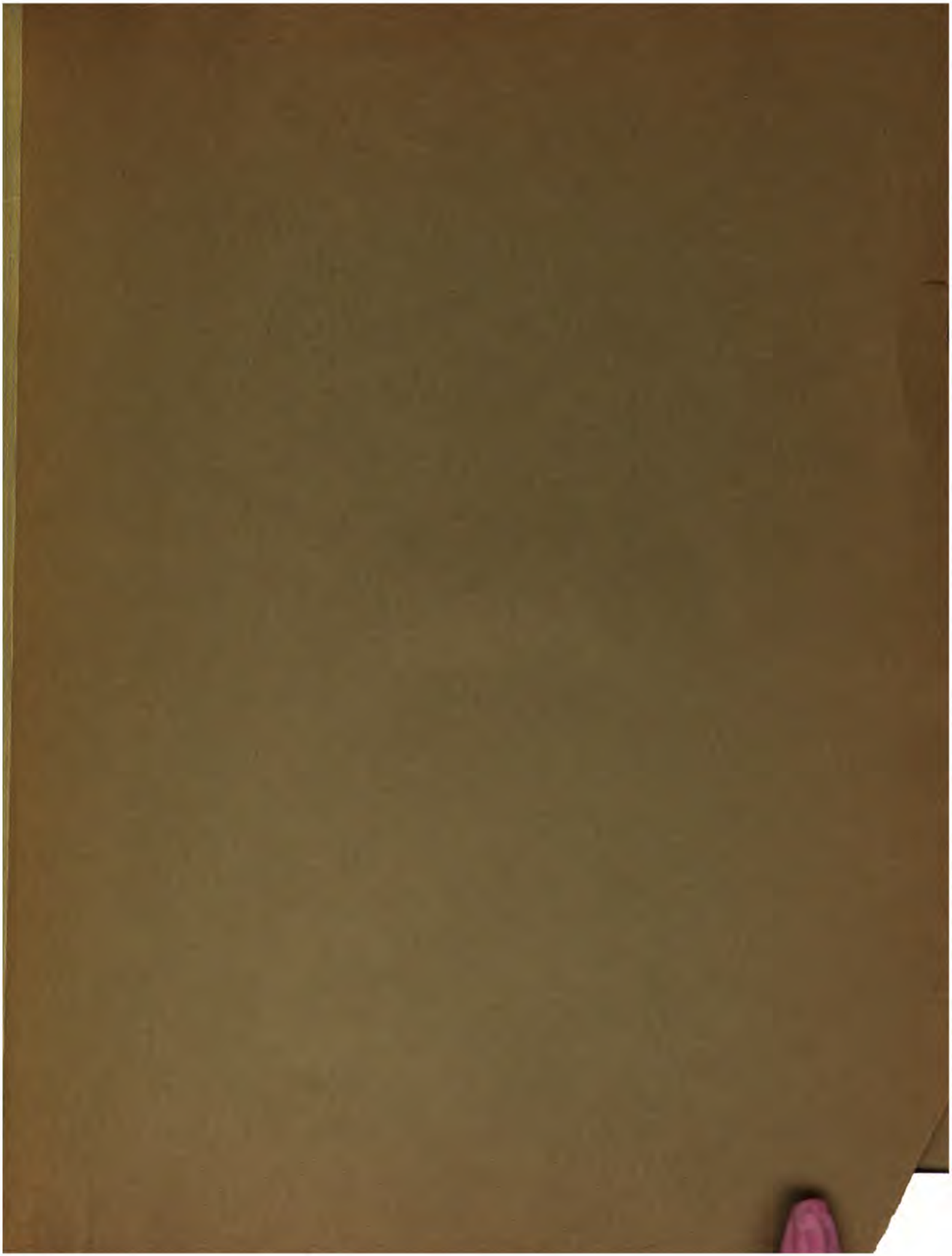
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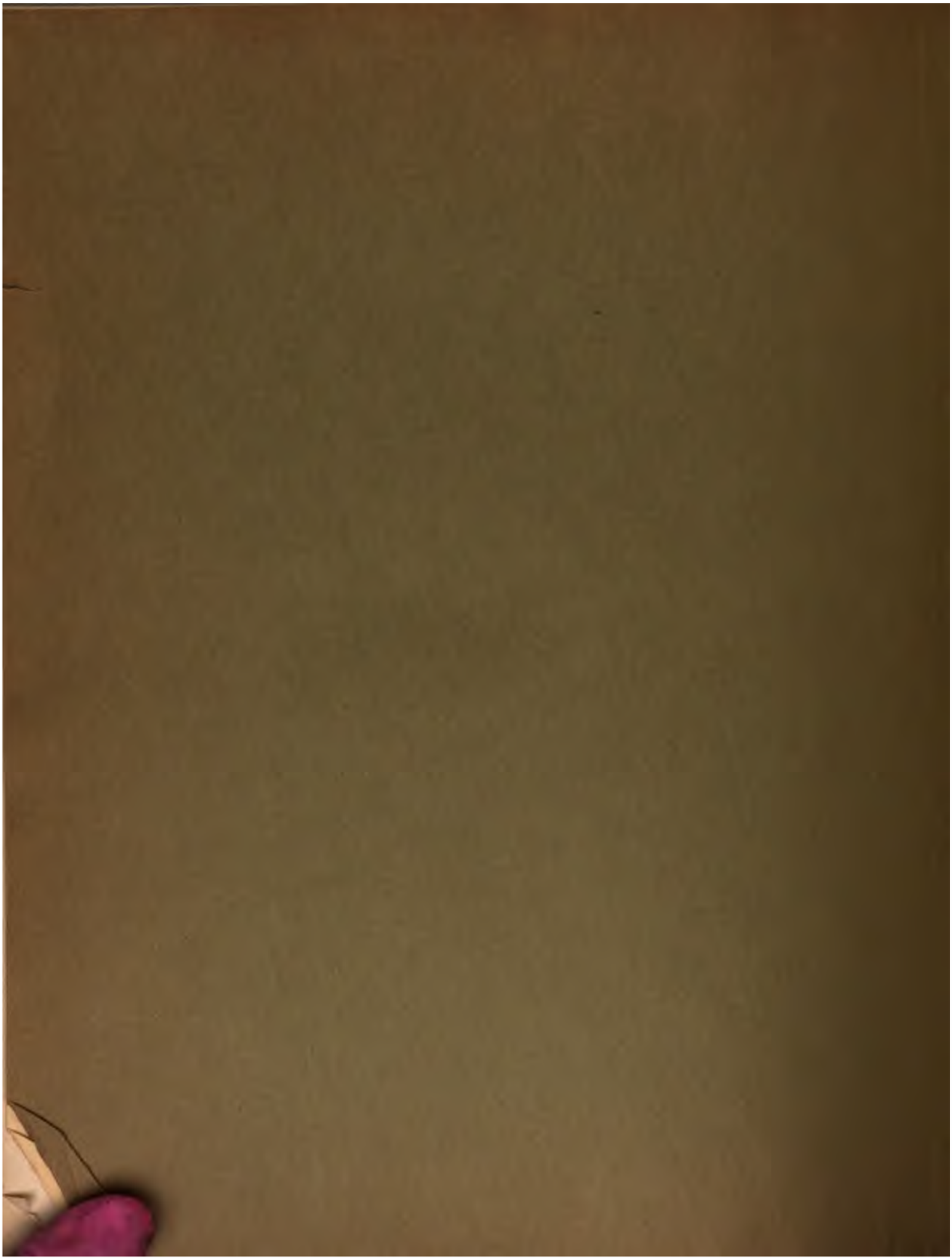
Page.	Column.	No.	For—	Read—
92	2	17	* — 32 54	2 Piscis Australis.
92	18	15	56	52.
92	18	16	57	56.
92	18	17	21 1	20 58.
327	1	8	Insert	Sept. 1. . . 20 52 38.58.
327	2	22	57	56.
327	2	26	Insert	Sept. 1. . . 50.57.
327	2	4,5	Omit wholly.	
420	4,5	2445	38.43 \| 1 (obs.)	38.50 \| 2 (obs.)
420	4	2464	57	56.
421	4,5	2465	50.42 \| 3 (obs.)	50.46 \| 4 (obs.)
421	.	2476	Omit wholly.	
177	6	31	4.86	29.04.
346	4	24	8.10	28.18.
420	7	2442	8.3	28.4.
165	9	12	67.76	76.76.
348	1	11	36.28	45.28.
423	7	2597	36.5	45.4.
207	9	24,25	21.53	+ 21.53.
393	7	686	48.3	5.3.
393	7	687	43.0	0.0.
407	7,8	1604	Omit	17.7 \| 3 (obs.)
407	7,8	1607	Insert	17.7 \| 3 (obs.)

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102	15,18	40	4	1.
308	3	38	1 4 9.74	1 1 9.74.
404	4	107	1 4 9.74	1 1 9.74.
131	8	49	43.4	33.4.
351	1	29	59.0	49.0 (omitted in Catalogue.)
137	8,9	14	+ 0 41 15.4 \| 97.6	— 0 41 15.4 \| 98.0.
351	2	last line	+ 0 42 53.0	— 0 39 37.4.
423	7	1335	+ 0 42 52.5	— 0 39 37.9.
139	5	65	26.3	2 31.7.
139	6	65	20.5	20.2.
352	2	4	16 35.0	14 29.3
425	7	1461	16 35.2	14 29.5
142	2	63	Anon., 15h. 33m. 32s.	Lacaille 6471.
143	9	63	56.9	57.5.
354	2	14	Anon., 15h. 33m. 16s.	Lacaille 6471, 15h. 31m. 50s.
354	2	15	27.9	27.3.
429	.	1707	Anon., 15h. 33m. 16s. . . 28.3	Lacaille 6471, 15 31 50 . . 27.7.
144	.	59	Circle reading above	Circle reading below.
144	2	59	Anon., 15h. 39m. 18s.	O. Arg. S. 14871.
145	6	59	32.4	59.5
145	7	59	148 4 46.7	154 20 14.8.
145	8	59	19 11 7.5	25 26 35.6.
145	9	59	52.9	53.8.
354	2	26	Anon., 15h. 39m. 3s.	O. Arg. S. 14871, 15h. 38m. 59s.
354	2	27	— 19 10 14.6	— 25 25 41.8.
429	7,8	1715	25 26	25 25 42.1 \| 1 (obs.)
429	.	1716	Omit wholly.	
151	11	61	Insert	Whole revolutions should probably have been recorded 27, making refraction 0″.6 greater, and south declination 5′ 14″.0 greater.
357	1	29	Correct in accordance with the preceding.	
434	7	2029		
155	5	61	— 3 28.8	— 2 57.5.
155	6	61	1 43.4	1 43.5.
155	7	61	151 43 12.8	151 43 44.2.
155	8	61	22 49 33.6	22 50 5.0.
356	3	last line	— 22 49 38.5	— 22 50 9.9.
433	7	1983	— 22 49 38.8	— 22 50 10.2.
167	6	24	1 58.9	2 13.1.
167	7	24	7.3	21.5.

Page.	Column.	No.	For—	Read—
167	8	24	28.1	42.3.
360	2	18	2 57.8	3 12.0.
167	11	33	Insert	Whole revolutions should, no doubt, have been recorded 30, making north declination 31″.3 greater.
358	3	28	Correct in accordance with the preceding.	
437	7	2231		
361	3	16	— 35 48 1.7	— 35 51 23.1.
441	7	2187	— 35 48 1.9	— 35 51 23.3.
167	11	53	Insert	Circle reading should probably have been recorded 75° 14′, &c.; in which case the refraction should be 15″.2, and the observed declination + 53° 41′ 7″.0. Otherwise, perhaps, there is an error of 2r. micrometer, and the star is O. Arg. N. 24532.
361	1	7, 8	Correct in accordance with the preceding.	
440	.	2436		
344	4	34	+	—
406	7	196	— 21 42 45.0	+ 21 42 44.4.
411	4	550	14.41	17.41.
436	7	2157	8 9	23 25.
436	7	2185	24 20	24 42.
			VOLUME OF 1865.	
401	4	. .	Insert after line 17	April 25 . 16.8.





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